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SECOND QUARTO SERIES.—VOL. XXXIX., No. 5.] NEW YORK, FEBRUARY 3, 1883. [WHOLE NO. 2,440.—VOL. LVI.

THE editor of the RAILROAD JOURNAL is pleased to receive information of railroad enterprises already entered upon or projected, items regarding the business done on the roads, such as relate to persons employed in the railroad and kindred interests; in short, about all matter which the readers of such a paper as this are gratified to find within its columns.

CONSOLIDATION.

THE Addison and Northern Pennsylvania Railroad Company of New York, and the Addison and Northern Pennsylvania Railroad Company of Pennsylvania, have filed in the office of the Secretary of State at Albany, N. Y., a certificate of consolidation, with the name of the Addison and Northern Pennsylvania Railroad Company and a capital of $600,000. The route of the road in this State is from Addison, a station on the New York, Lake Erie and Western Railroad, to the boundary lines of the States of New York and Pennsylvania, to connect with the road of the same name now building in Pennsylvania.

THE Brinkley and Cotton-Plant Railroad has consolidated with the Batesville and Brinkley Railroad, and the twenty-five miles completed from Brinkley, Ark., to Colona were transferred to a construction company, which guarantees to complete the road to Newport, on the St. Louis and Iron Mountain Railroad, by September 1. The stockholders elected a new directory, who elected William Black president, I. W. Martin secretary and treasurer, and B. C. Brown attorney.

ORGANIZATION.

AN election for directors of the Kentucky Central Railroad Company was held at Covington, Ky., on the 23d ult., and resulted in the choice of the following gentlemen: C. P. Huntington, G. H. Pendleton, George H. Bliss, C. Alexander, B. S. Cunningham and John Echols.

THE Newburg, Dutchess and Connecticut Railroad Company has re-elected its board of directors with two exceptions – Richard C. Van Wyck, elected in place of Judge J. N. Whiting, and S. J. Wright to fill a vacancy. Gen. John S. Schultz was re-elected president and W. A. Wells secretary.

AT a meeting of the stockholders of the Newark, Somerset and Straitsville Railroad Co., held at Columbus, Ohio, on the 24th ult., the following directors were elected: Robert Garrett, S. Spencer, Osman Latrobe, B. Dunham, T. J. Davis, William Shields, J. C. Larmell, C. H. Kebler, David Lee, William Franklin and W. H. Harrison. The Board elected David Lee president and J. Hope Suter secretary and treasurer.

AT a meeting of the directors of the Southern Pullman Palace Car Company at Louisville, Ky., on the 25th ult., the vacancies in the board were filled by the election of O. A. Lochran, C. H. Davie and Thomas H. Harp. Mr. Harp was also chosen second vice-president. George F. Brown will assume the duties of general superintendent, with headquarters in Louisville. James Martin will be assistant superintendent.

AT a meeting of the stockholders of the Columbus and Xenia Railroad Company, held in Columbus, Ohio, on the 25th ult., the following directors were elected: J. R. Swan, Robert Neil, Henry C. Noble, P. W. Huntington, R. A. Harrison, John W. Andrews, George M. Parsons, Alfred Thomas, C. P. Cassilly, Henry Hanna and Thomas D. Messler. The Board organized by the election of J. R. Swan as president, and Robert S. Smith secretary and treasurer.

A MEETING has been called by the purchasing trustees of the Marietta and Cincinnati Railroad to be held in Chillicothe, Ohio, on the 7th inst., for the purpose of determining the future name of said company; deciding, for the time being, the amount of its capital and the number of shares into which such capital shall be divided; fixing the number of directors and their term of office; electing such directors (a majority of whom shall be residents of Ohio), and doing all things necessary or proper to reorganize the company.

INCORPORATION.

THE South Pennsylvania and Ohio Railroad Company has been incorporated in Ohio with a capital of $50,000; also, the Citizens' Street Railroad Company, of Dayton, Ohio, with a capital of $100,000.

ARTICLES incorporating the Jonesboro and Cape Girardeau railroad company were filed with the secretary of State of Illinois on the 15th ult., by Thomas F. Bouton, Wm. S. Day, Oliver P. Baggott, Alvan Cook, of Jonesboro, Ill., and Charles L. Otrich, of Anna, Ill. The capital of this company is $100,000, with which it is proposed to build a railroad from Jonesboro, Ill., to Cape Girardeau, Mo.

THE Centre County, Penn., *Democrat* says that a charter has been granted to the Nittany and Southern Railroad Company to build a road connecting with the Susquehanna and Southwestern Railroad from Mill Hill to Bellefonte. The directors are: Hon. W. A. Wallace, S. R. Peale, Frank McLaughlin, John Hickey, R. R. Peale, W. H. Brown, Thomas Yardley, J. J. Pie and W. W. Morrison.

THE papers for the incorporation of a company to build a railroad from Peoria, Ill., via Quincy, to Sioux City, Ia., were filed at Peoria, Ills., on the 25th ult. The capital stock is placed at $13,700,000, and divided into 137,000 shares. The incorporators are John G. Fonda, John H. Duken, Fred N. Menke, Quincy; William Hill, John Farlay, Warsaw, Ill.; Henry A. Osborn, Chicago; David M. Kelley, Green Bay, Wis.; W. H. M. Siston, Walter Scranton, Samuel Marsh, New York City; Henry Ketcham, New London, Wis.

ARTICLES of incorporation have been filed in California of the San Francisco and Colorado River Railroad Co., with A. E. Davis, A. Grover, Chas. Iverson and George C. Prentice of San Francisco, and R. M. Garrett, of Alameda, as directors. The capital stock is $20,000,000, divided into $100 shares. The road is to be constructed between San Francisco and the Colorado river, reaching the latter at or near the 35th parallel, in the State of California. The road will be about 650 miles in length. A. E. Davis is Treasurer of the company, and the papers filed in the Secretary of State's office state that $100,000 has been paid in.

ARTICLES of incorporation were filed in the office of the Secretary of State of Illinois on the 24th ult. of the Gilman, State Line and Rochester Railroad Company. The proposed road is to be constructed from Gilman, in Iroquois county, Ill., to the State line between the States of Illinois and Indiana on the east line of Iroquois county, to connect with a railroad to be constructed from Rochester, in the State of Indiana, through Rensselaer, in the State of Indiana, to said State line on the east line of said Iroquois county, and to run in a northeasterly direction from Gilman to State line. Capital stock, $500,000. Incorporators: Paul

H. Dennis, Chicago; John Shule, James H. Allen and Elias Wenger, Gilman; John Lee, Rochester, Ind.; A. D. Ioner, Kewana, Ind.; and Frank E. Newton, of Litchfield, Ill.

THE Detroit, Indiana and St. Louis Railroad Company has been incorporated in Indiana. The company has a capital stock of $2,000,000, and proposes to build a road from Fayette, O., to Bloomington, Ill., a distance of 280 miles. The line of the road passes through the counties of Fulton and Williams, in Ohio; Steuben, DeKalb, Noble, Kosciusko, Fulton, Pulaski, Jasper and Newton, in Indiana; and Iroquois, Ford, Livingstone and McLean in Illinois. The directors are Hiram Iddings, Owen Black, William Worden, John Singery, S. W. Oldfather, Amos Kist, A. B. Ball, Albert Tucker, F. M. Pearman, W. Bybee, A. J. Dunear and Horace Tucker.

A CHARTER was issued at Harrisburg, Penn., on the 25th ult. to the Harrisburg and Western Railroad Company. The object being to construct a line from Harrisburg to a connection with the Pittsburg, McKeesport and Youghiogheny Railroad in Allegheny county. The road is to be 300 miles long, and will pass through the counties of Dauphin, Cumberland, Franklin, Huntington, Fulton, Bedford, Somerset, Westmoreland, Fayette, Allegheny and Washington. The capital is placed at $18,000,000. The affairs of the company will be managed the first year by the following Board of directors: Richard K. Shelden, Philadelphia; William T. Sanger, Harrisburg; G. M. Watson, George O. Morgan and George P. Grover, Allegheny City; P. T. McNamara, Pittsburgh, and Frederick J. Grower, Harrisburg. Nearly all the stock is in the name of Richard K. Shelden. Both Shelden and Grover are officers of the Southern Pennsylvania Railroad Company. Richard K. Shelden is president of the company. The construction of this road will give the Philadelphia and Reading Railroad a direct connection, via Harrisburg and Pittsburgh, with the West.

CONSTRUCTION.

ABOUT $130,000 have been raised to start the San Antonio and Corpus Christi Railroad.

THE Belvidere Delaware Railroad is to be double-tracked from Belvidere to Lambertville.

THE location of the Malvern and Pine Bluff Railroad was commenced at Malvern, Ark., on the 26th ult.

THE Natchez, Red River and Texas Railroad is now completed and in running order to Cross Bayou, a distance of seventeen miles from Vidalia, La.

THE extension of the Philadelphia and Reading Railroad from Williamsport to the Jersey Shore, Pine Creek and Buffalo Railroad has been completed.

THE contract for building the tunnel on the Pennsylvania's new line, near Phœnixville, has been awarded to John McFadden, of Lancaster. It will be 900 feet in length.

IT is expected that the Williamsport and Clearfield Railroad, which is now under contract, will be completed by August next. It is to be operated, under a traffic agreement, by the Pennsylvania Railroad Co. The officers of the company are: Cornelius V. Sidell president, C. S. Riley vice-president, and Charles D. Ingersoll secretary and treasurer.

THE Bridgton and Saco River Railroad, connecting Bridgton with the Portland and Ogdensburg Railroad at Hiram, Me., was opened for business on the 29th ult.

THE Eureka Springs railroad branch of the St. Louis and San Francisco line from Seligman to the Springs, was completed on the 24th ult., and a train was run to the Springs.

THE grading of the Canada Atlantic Railway has been completed as far north as Hemmingford, and the contract for all the depots from there to Alburgh Springs has been let, the same to be completed before October 1.

THE Richmond and Alleghany Railroad Co. is constructing a bridge across the North River at Lexington to make a connection with the Valley Railroad, the extension of which to Lexington is to be completed by the 1st of June.

THE contractor for the construction of the Delaware River and Lancaster Railroad between Phoenixville and Falls of French Creek, commenced work in South Coventry township, six miles south of Pottstown, Penn., on the 25th ult.

THE work upon the Philadelphia, Germantown and Chestnut Hill Railroad has been commenced in earnest, and it is fully expected that the road will be completed before the end of the year. Henry D. Welsh is president of the company.

A LETTER from Richmond, Va., says that "the Chesapeake and Ohio Railroad is to be double-tracked at a cost little short of $10,000,000. Work has been commenced at three points of the eastern division and at four points on the West Virginia Division, and it will require about two years to complete it."

THE New Orleans *Times-Democrat* says that the Southern Pacific extension will be built from Vermilionville to West Baton Rouge at an early day. Between West Baton Rouge and Vermilionville a greater portion of the Grosse Tete road will be used, and not more than fifty miles of road-bed will be built for the new line.

THE Memphis extension of the Kansas City, Fort Scott and Gulf is now completed and regular trains running to West Plains, Howell county, Mo., 315 miles from Kansas City. The line will reach Augusta, Oregon county, Mo., about the 20th inst., and will be completed and open for business to Memphis, Tenn., about the 1st of June.

THE Columbus (Ohio) *State Journal* says that the completion of the Ohio Central Railroad insures the construction in West Virginia of three other railroads, to wit: 1st, A railroad down the Ohio River from Wheeling to Parkersburg, thence to Point Pleasant. 2d, A railroad on Elk River. 3d, A railroad on Gauley River. Active steps are now being taken by capitalists for the early construction of these three important feeders to the Ohio Central Railroad.

THE Cecil (Md.) *Democrat* says "that the engineer and surveyors of the Baltimore and Ohio Railroad Company have completed three lines between the Bush and Gunpowder rivers, and recently removed their tents from the neighborhood of Joppa to near Bush Furnace. It is believed that the Wilmington and Western Railroad Company will shortly be consolidated with the Baltimore and Ohio, and the work of constructing the new line between Baltimore and New York be pushed to an early and successful termination."

A RECENT writer says: "On a fine day the panorama of the African coast from Cape Town to the Cape of Good Hope is well worth seeing. First comes the gaunt outline of the Lion's Head, with its helmet-shaped crest of rock standing out black and stern against the sunny sky, and around its base the trim white houses of Sea Point, the inhabitants of which salute us after a novel fashion by casting successive flashes of light upon our deck from looking-glasses held up to the sun. Then follows the long procession of dark-gray precipices fancifully called 'The Twelve Apostles,' succeeded by endless ranges of craggy hills, bare for the most part, but flecked here and there with scrubby patches of vegetation, through which the sandy soil peers incessantly, looking (as a facetious passenger remarks with a grin) 'just like a nigger with his head shaved.' At length, when the night is already advanced, the rising moon shows us a long dark ridge ending in two grim pyramids of rock, from the furtherest of which the Cape light-house looks out with its single eye of fire over the dim waste of waters below. Unchanged and unchangeable, the stern old cliffs watch our passage."

NO COUNTRY follows out more religiously than South Africa the good old Arab maxim, "Agit lil Shaitaun" (hurry belongs to the devil). The famous German professor who, when bidden to a wedding, traveled so slowly that he came just in time for the subsequent christening, would have been quite at home in Namaqua Land or Kaffraria. When a man loses a train, he goes quite contentedly by the one following. When he misses a steamer, he comforts himself with the recollection that there will be another next week. Everything seems bent upon doing its utmost to avoid unnecessary haste. The trains go at the rate of steamers, the steamers at the rate of stage-wagons, and the stage-wagons at a pace which might be overmatched with ease by any athletic caterpillar.

A PHILADELPHIA paper expresses a wish for a "mechanical contrivance to keep a street-car on the track, or to throw it directly back if it jumps off." To which the Harrisburg *Telegraph* replies that "such a thing does not trouble Harrisburg. To keep a street-car on the track all that is necessary is for a butcher wagon to claim the right of way. With regard to the second need, a practical answer to it may be seen on our streets a dozen times a week, when the driver stands on the front platform and swears at the horses, while the passengers slush around in the snow and lift the car on the track with a mechanical resignation born of constant practice."

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Illinois Central Railroad.

THE following extract from the minutes of the meeting of the directors of the Illinois Central Railroad Company held on the 17th ult., has been printed:—

"The report of Mr. William H. Osborn, Chairman of the Chicago, St. Louis and New Orleans Railroad Company, addressed to this board under date of December 30, 1882, accompanied by the report of the Hon. James Fentress, general solicitor, addressed to him under date of December 8, 1882: and also the report of Mr. James C. Clarke, general manager of the Chicago, St. Louis and New Orleans Railroad Company, addressed to the shareholders of that company under date of January 1, 1883, having been submitted and read, it was, on motion of Mr. Webster, duly seconded.

"*Resolved*, That these reports be accepted by this board, printed, and a copy thereof transmitted to each shareholder of the Illinois Central Railroad Company, and to each holder of the leased line stock certificates issued against the shares of the Chicago, St. Louis and New Orleans Railroad Company.

"That this board desires to express and place on record its high appreciation of the wisdom, zeal and unflagging fidelity with which Mr. Osborn, Mr. Clarke and Mr. Fentress and every other officer whose work has come under the observation of this board, have conducted the affairs of the Chicago, St. Louis and New Orleans Company since the property was placed in their hands. And the president of the Illinois Central Company is hereby directed to express to those officers of the Chicago, St. Louis and New Orleans Company the thanks of this board for the gratifying results which their labors have done so much to accomplish.

"The following, moved by Mr. Elliott, and duly seconded, was also adopted:—

"In view of these highly satisfactory reports, the board deems it desirable to call the attention of the Illinois Central shareholders specifically to the increased value of the property resulting from the intelligent and unwearied efforts of the officers who have been charged with the care and development of the Southern line; therefore, be it

"*Resolved*, That the board recommends to the shareholders at their next annual meeting to take such action as they may deem best to express their appreciation of the results thus obtained and their recognition of the services rendered."

The Growth of the Locomotive Engine.

A LECTURE was delivered on the 26th ult. before the Engineering Society of the School of Mines of Columbia College, by Prof. F. R. Hutton, of that Institution, on the "Growth of the Locomotive Engine." The lecture was illustrated by drawings of the earliest types of the locomotive—the first of which, the Professor said, was constructed by George Stephenson in 1829—with various subsequent designs by the same inventor. Pictures were also exhibited of the Trevithick engine, the Royal George, built by George Stephenson in 1825; also the Rocket, which on the occasion of its first trial ran over and killed the celebrated Member of Parliament from Liverpool, Mr. Husskisson. This engine is now preserved in the South Kensington Museum, London. The first attempt to use steam for locomotive purposes was attributed to Sir Isaac Newton, in 1680. In the opinion of the professor the honor of first utilizing the steam traction engine in this country belongs to Oliver Evans, and the event dates back as far as 1804. At this time the use of steam on a railroad first began, and was used for colliery purposes. The lecturer then described the various forms of the locomotive engine of the present day, and explained its essential parts. He treated of the various kinds of freight and passenger engines—the former with great weight, a number of small driving wheels, and great power; the latter with two large driving wheels and high speed. "In determining the pulling power of an engine," Prof. Hutton said, "the great point of consideration, aside from the size of the boiler and the area of the cylinder, is to keep the driver from slipping. This is to be secured by increasing the weight on the drivers. This weight, if concentrated directly on one point, would crush the wheels or track. This difficulty is obviated by increasing the number of driving wheels, and so on, distributing the weight. The Great Mogul engines have ten wheels. The larger the driving wheels the greater the speed, and the smaller the wheels, the greater the strength, is the law. For this reason, the fastest engines have only one pair of driving wheels, and that very large, while the Mogul and Consolidation engines, used for coal traffic and heavy grades in Pennsylvania, have small driving wheels and many of them."

The Professor also related the story of a race between Peter Cooper's engine and an old gray horse more than half a century ago. He said that one of the chief obstacles to the attainment of high speed in those days was the lack of a sufficient draught through the fire box. In the stack of Peter Cooper's small, experimental engine, was a fan wheel, run by a belt, to increase the draught. With this device, it was thought that the locomotive would outrun the car horse, and a race was arranged, the engine and the horse car to run on parallel tracks. The start was even, the lecturer said, but the engine soon began to draw away from the nag. The distance was increased, and the prospect of a brilliant victory for the locomotive was all that could have been desired, when the belt slipped off from the fan wheel. Peter Cooper lacerated his hands in an attempt to readjust the belt, but it proved fruitless, and instead of distancing the old gray horse, the locomotive and the experienced nag came in neck and neck.

THE Allen Paper Car Wheel Company have just contracted with the Northern Pacific Railroad to furnish wheels for their entire passenger equipment. This is not merely for their present equipment but for all sleeping, passenger, baggage and postal cars, and for locomotives and tenders to be built. While the Allen Paper Car Wheel Company are to be congratulated on securing so large a contract, the Northern Pacific is to be complimented on its decision to secure uniformity in equipment, as well as upon its selection of the paper wheel.

Heating and Lighting Cars.

A CORRESPONDENT of the New York *World*, writing from Reading, Penn., under date of January 24, referring to an editorial which appeared in that paper on the 22d, in which it was stated that "after all the horrible accidents—going back as far as 1867—no attempts has been made by any railroad company to prevent the loss of life in future," goes on to say: "Immediately after the Angola horror the Philadelphia and Reading Railroad Company took the stoves out of their passenger cars and put heaters under the cars in such a manner as to render it impossible in case of a run off or smash up to set fire to the wreck. To prove this I would call attention to the dreadful accident that occurred on the Pickering Valley Railroad, one of its branches, a few years ago, when the train was dashed over the embankment in consequence of a wash out. If those cars had had the stoves inside there would, perhaps, not have been a life saved. Every one of the cars that went down had two heaters attached on the outside. When the wreck was cleared away it was found that the heaters were torn from the cars and left far from the broken wood work. These same cars were lighted with compressed gas, which immediately went out. If there had been coal-oil lamps instead there would have been a repetition of the Angola or Ashtabula horror.

"If any of your many readers will stop at the New Jersey Central depot in Jersey City and ask for the passenger cars that run on the Bound Brook route, they can see the radical reform which you ask in heating and lighting. The much lamented Webster Wagner, who lost his life in one of his own drawing-room cars, acknowledged the safety and superiority of the Reading plan over all others. In 1868 he ordered two of the Reading heaters with the intention of applying them to one of his drawing-room cars in Gilbert, Bush & Co.'s shops, at Troy. The heaters were attached to the car, but the old story is that in using the heaters it interferred somewhat with the beauty and adornments of the interior of the car in putting in the safety flues. The result was they put in place the salt water heaters—the same kind of heaters that destroyed the life of Mr. Wagner."

THE president of the Market Street Passenger Railway Company, of Philadelphia, has adopted the plan of furnishing the drivers and conductors between trips with hot coffee. The beverage is served out, with milk and sugar, from 11 A. M. to 11 P. M. every day. About seventy gallons are made and distributed daily, which is an average of six pints to each of the 200 employés. The men are not limited to any particular quantity, but are allowed all they want to drink. The average daily consumption has been about 1,120 cups of the steaming beverage.

"THAT man is a phrenologist, Pat." "A phat?" asked Pat, puzzled. "A phrenologist." "Phat's that?" "Why, a man that can tell, by feeling of the bumps on your head, what kind of a man you are." "Bumps on me head, is it?" exclaimed Pat. "Then I should think it would give him more of an oidea what kind of a woman me wife is."

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WE invite railroad officers to send us notice of elections, transfers, appointments, resignations, etc.; and all our readers would oblige us by furnishing for our columns any items of personal information, which may come to their knowledge, and are adapted to this department. We aim to record all new railway enterprises in the United States and Canada, and to note the progress of construction on all new roads and extensions; and we request all concerned in railway building to give us early information regarding the above, that our reports may be as complete as possible.

Subscribers are requested to report to our office any irregularity in receiving the JOURNAL.

Contributed articles relating to Railroad matters generally, Mining interests, Banking and Financial items, Agricultural development, and Manufacturing news, by those who are familiar with these subjects, are especially desired.

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IN a letter addressed to Mr. THOMAS LOWRY, attorney-at-law, Minneapolis, Minn., Mr. Littell, president of the American Street Railway Association, says: "I think it desirable to call our convention together and meet at the same time you hold yours in Chicago. I am perfectly agreeable to such an arrangement." The meeting of representatives of both the railroad and street railway interests at one time and in one place, could not fail to bring about developments of great interest and importance to both. We hope Mr. Littell's wish will be gratified.

AN International Electric Exhibition will take place in Vienna, Austria, this year, to be opened on the first of August and closed on the thirty-first of October. Those who visited the Universal Exhibition at Vienna in 1873, cannot fail to have pleasant recollections of the same; and all our readers will learn with interest that the forthcoming exhibition will be made an object eminently worthy of the attention of all who either take part in or visit it. As American electricians are among the foremost in the world, we take it for granted that their part in the coming exhibition will adequately represent the interest they feel in the progress of electrical science, especially in its latest adaptations to the convenience and comfort of man. The general reader is reminded that Vienna is a magnificent city, much handsomer now than in 1873, since which date many fine buildings have been erected. We make the above announcement very cordially and in the earnest hope and belief that the United States will make a creditable exhibit at the Vienna Electric Exhibition of 1883, and that the host of our people who will cross the Atlantic this year will not fail to visit the Austrian capital and contribute their share of encouragement towards the event which will give it particular interest between the dates named.

WHAT AILS THE UNION PACIFIC?

THE week in Wall street has been signalized by a remarkable revolution in the course of prices of two stocks—the Union Pacific and the Denver and Rio Grande. The market estimation of the Union Pacific, which has been for two or three years remarkably high, has quite recently taken a tumble, and investors as well as the general public are inquiring what is the occasion for it. During the year 1881 the stock sold as high as 131¾, and has fallen within the past week as low as 98¼. The company continues to pay the same rate of dividends upon the stock—seven per cent, payable quarterly—but there is, nevertheless, a suspicion that the lowest point has not yet been reached. President SIDNEY DILLON is reported to have said "It has no construction companies or syndicates to provide for, the branches and feeders built by the Union Pacific are owned by the company, and the bonds issued on them are in the hands of the company. The earnings from the branches go direct to the stockholders. The branches now earn sufficient to pay three per cent dividends on the $65,372,155 of stock."

If all this be so, the query still remains: What has happened that should diminish public confidence in the securities? Two things have happened which are calculated to shake that confidence:

(1.) The Chicago, Burlington and Quincy Railroad Company has completed an independent line between Chicago and Denver. As a corollary to that, the Denver and Rio Grande (narrow gauge) is just about completing a line between Denver and Salt Lake City. The two latter together virtually parallel the entire length of the Union Pacific main line, and connect at Salt Lake with the Central Pacific, and might be used to divert through business from it. To do this effectually, it would be necessary to widen the track of the road between Denver and Ogden. But this is not a difficult matter; and, in the meantime, it would be possible, by cutting down the rates, to divert considerable business, as the change of gauge would hardly affect passenger traffic, and a change of trucks could be improvised, as is done on some eastern roads.

It is manifest that the days of the Union Pacific monopoly are passing away; and notwithstanding Mr. DILLON'S confident show of earnings, the Union Pacific, while it may still remain a valuable property, is so encumbered with debt, and so hampered by competitors, that it is difficult to see how its former position can be regained.

(2.) The other cause relates to the internal organization and management of the company. A morning newspaper calls attention to the fact that in 1880, and former years, the Union Pacific was operated at an expense of about 40 per cent of its gross earnings—a ratio lower than that of any other considerable road in the country; due, in part, to the high rates obtained, and in part to the relatively low fixed charges. The company went through the forms of consolidation with the Kansas Pacific and Denver Pacific railroads; thereby enlarging the capital of the company about $14,000,000, and the bonded debt about $35,000,000, without a corresponding increase in the gross earnings of the combined lines. It is true that the Kansas Pacific had been a sort of thorn in the side of

the Union Pacific for some years, as a competitor for the profitable Colorado business, and because under the Pacific Railroad Acts it had the right to connect and do through business on equal terms with the main line.

A system of deliberate "freezing out" seems to have been practiced upon the holders of Kansas Pacific securities. In 1878 its stock was selling below 10 cents on the dollar, and much of it changed hands at 5, while its Income bonds ranged at about 15, and its Second Land Grant bonds at about 35. There is a suspicion that before the consolidation was made the great bulk of the stock and junior bonds of the Kansas Pacific Company passed into the hands of parties interested in the Union Pacific, and that virtually this injection of stock and bonds into the consolidated company netted a profit of somewhere from $25,000,000 to $30,000,000 to the managers for the time being of the parent company.

Only a year later $10,000,000 of additional Union Pacific stock were issued, ostensibly to pay floating debt, but to what uses the proceeds of that stock were ever put no one can say with confidence. Both of these additions to the burden of the Union Pacific fixed charges have contributed to destroy the repose which investors had in the integrity of the managers.

From the start, under the Credit Mobilier Ring, the company seems to have been unfortunate in its *personnel* (the honorable gentlemen at present in charge always excepted). There is a feeling, also, that its numerous branch lines into Colorado, and its Oregon Trans-Continental branch line into Oregon are parts of a mistaken policy; and that however flattering the show of earnings, made in good part by carrying construction material, may appear, the prosperity is transient, and that a reaction may be looked for in future.

Just how far those who were once heavy stockholders, but who disposed of their holdings at large figures, are now "bearing" the stock to get it back forty or fifty points lower cannot be made matter of proof; but it is a real misfortune to any company to have for its directors habitués of Wall street, who can, by Stock Exchange devices, make more money from the fluctuations in the value of the securities than they can from ministering to the business of the road.

THE annual report of the Custom House at New York shows the tonnage receipts for 1882 to be 1,346,045, divided among 6,327 sailing vessels and 951 steam vessels. Of the sailing vessels, 1,904 were American, 2,461 British, 611 Norwegian, 339 German and 261 Italian. Of the steam vessels, America had 162, Great Britain 643, Germany 47 and Italy 7.

Electricity as a Motive Power.

BY W. L. SILVEY.

IT has been said that in the line of electricity the world moves with giant strides, yet when we take a sober second view, it is really astonishing to see the little real advance made in the last twenty years. Electric light is older than gas light. Sir Humphrey Davy exhibited the electric arc in London while the streets were still dimly lighted by oil, gas being yet an almost untried experiment, and his light—a veritable electric sun four inches long—was so powerful as to throw our modern electric lights of one-eighth to one-half inch in length, entirely in the shade. The progress of electric lighting has been a series of spasmodic leaps backwards as well as forwards, the only real progress made in the last thirty years being the improved machines for generating electricity. As an example of the backward movement, I might mention what the newspapers have recently given as the inventions of Mr. Edison, that is, the use of an incandescent wire, or sheet of platinum or iridium, or a thread of carbon (of which the Swan and other modern rivals are simply modifications) inclosed in a vacuum. As a matter of fact the vacuum was used by Davy nearly a century ago, while as to the other parts—that is carbon thread platinum wire, etc.,—they were used way back in the "forties" in connection with King's Patent Electric Light, the inventor of which was in reality an American named Star, who died before his inventions were all completed. As to our electric generators, on which so much inventive ingenuity has been expended, little progress has been made since the days of Faraday. In fact, when Henry in 1830 made the first compound electro-magnet, and Faraday, in 1831, succeeded in luring an electric spark from a coil of wire surrounding a piece of iron, the first grand fundamental principle had been discovered, all our modern dynamo or magneto machines being only able to do the same thing in a more perfect way.

The inventions of Brush, Edison and others are only capable of giving a larger and more powerful current for a less expenditure of power than the numerous inventions which preceded them. It is no wonder that electric light is now so common and successful, when experimented with and backed by the best inventive talent, assisted by the example of inventors and discoverers for nearly one hundred years. Immediately after the discovery of the electro magnet by Henry, and the discovery of its prodigious lifting power when its coils were circulated by an electric current, inventors began to look in that direction for a motive power for the future, and in a short time Jacobi was navigating the Neva in a boat driven by electricity; but the great impediment in his way, as with all others until recently, was the great cost of supplying sufficient battery power, which made the electric motor more expensive than steam motors. With the recent advance made in producing large, powerful electric currents the old expensive battery could be practically discarded, while the electro motor is free to move. In fact it will soon be a powerful rival to steam, owing to its greater safety, the possibility of supplying power to cities from a central station, or to transmit power to upper rooms of high buildings for running printing-presses, etc., hitherto inaccessible to steam power, and the possibility of utilizing the power of falls, rapids, tides and rivers for driving our ponderous mine and factory machinery. It is now possible to take up the power of wind and water and convey it to wherever it may be needed, which makes the electric motor no longer a pigmy but a powerful rival if not an overpowering opponent to steam. Since the recent improvements which make the storage battery practical, currents may be stored for future use, or when turned on our electro motors may be made to give out more power than if worked continuously. Electricity is undoubtedly the future motor, for it can turn our mills and factories, drive our cars, crush our quartz and ores, refine our metals, in fact do man's hard work more perfectly than any steam mechanism. The future value of electricity is rated so high by clear-headed men that so good a servant as steam has been sinks, by comparison, into insignificance. Nothing can be more probable than that coal will be burned at the shaft, the power to be transmitted to cities over a wire, instead of the expensive way of hauling coal to our factories as now universally employed. Instead of putting steam-engines at our mines for compressing air, etc., the near future will see us utilizing the power of mountain streams for driving generators, the power conveyed to the mines by a wire, there to be reconverted into power by electric motors, thus stopping the practice of hauling coal to the engines, an expensive and unnecessary practice which necessitates the building of expensive roads sometimes many miles over the mountains. Electric power is so easily transmitted many miles over a wire that the man who will employ it first in a commercial or general way will be truly a public benefactor. All that is now needed is the co-operation of capital with inventive talent to make the transmission of electrical power a sure and paying investment.

CASTLETON, IND., Jan. 25, 1883.

A STEAM bark was recently to be seen in the East River, at the foot of Wall street, New York City. She takes a general cargo for Oregon. Her name is the "George S. Homer" and she is a sister ship of the bark Mendoza, but larger. She was built at Bath, Me. Her dimensions are 214 feet long on deck, 204 feet on the keel, 39 6-10 feet beam, 20 9-10 in depth of hold, and 1,174 tons register. She has a regular marine engine and Scotch boilers. She carries her boilers in a house on deck. The George S. Homer is full bark rigged, and will use her auxiliary steam power only in case of necessity. The fact is interesting that for several years steam has been used as an auxiliary propelling power by whalers in the Pacific, and shipping men along the coast think well of the principle. A schooner named "Louis Bucki" in the Southern lumber trade, is also fitted with light auxiliary steam power.

MOONLIGHT, like charity or a lawyer's wig, covers a multitude of sins.

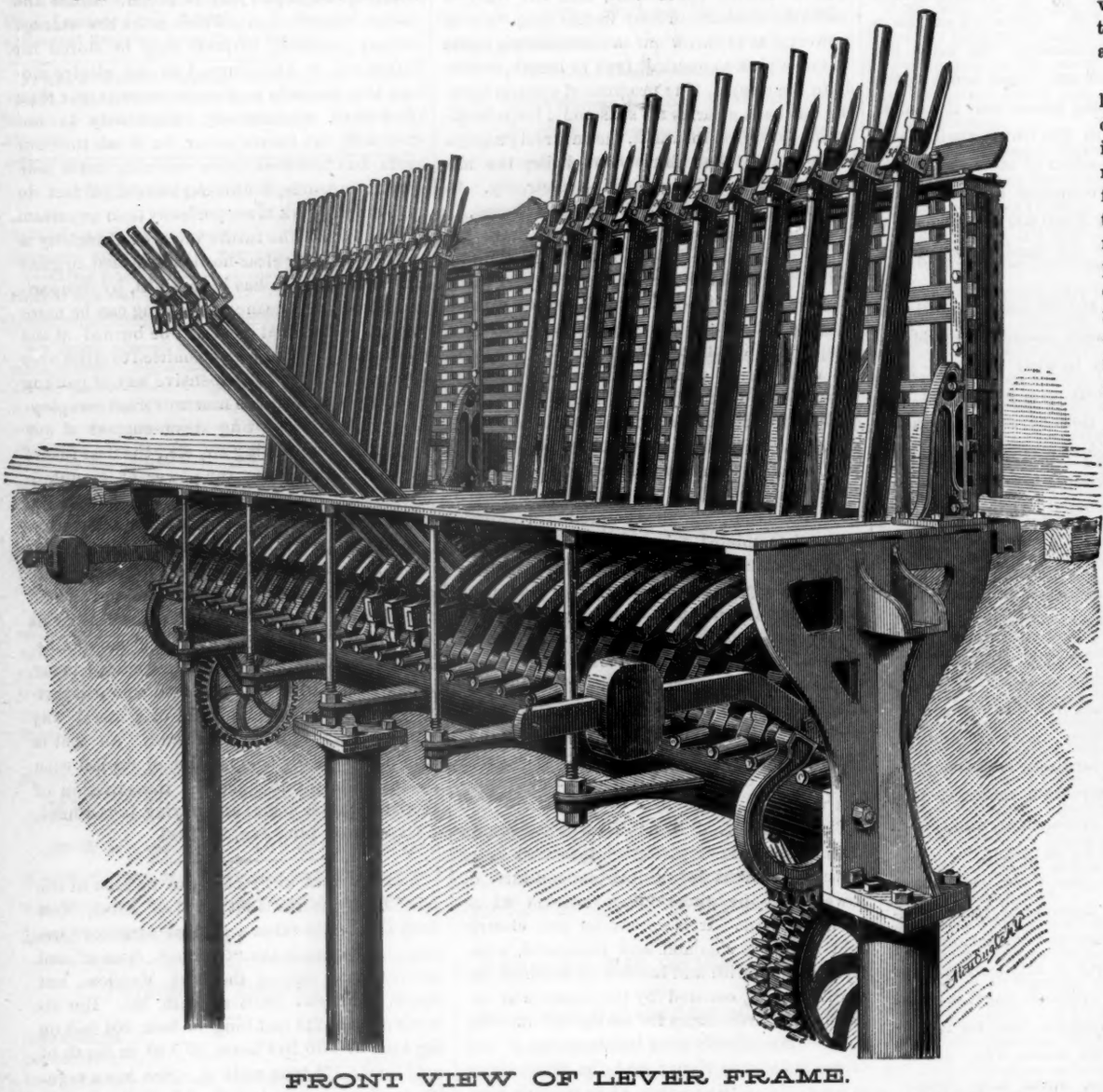
Interlocking Switch and Signal Apparatus.

EXPLANATION AND DESCRIPTION OF INTERLOCKING APPARATUS.

[*Continued from page* 79.]

THE first point in arranging a yard on the interlocking system, is to concentrate as much as possible all the switches, so that one machine and one man can actuate as great a number as possible. It is found that one man can work a machine of fifty levers almost as readily as one of twenty levers, hence the importance of concentrating the switches. It is very generally supposed that the system of interlocking causes delay to traffic by taking longer to perform shifting operations; but it is found by experience in England, that much more work can be got through by a smaller number of men with the interlocking than without it, provided that the yards are reasonably well laid out and that they are properly signalled. The elevated cabin for the levers should be located with care, so that it may be utilized to work as many switches connected with the main track as possible; or in such position as may be most convenient for shifting operations.

The signal cabin should be constructed with a purpose of giving the switchman as good a view of the tracks and switches as possible. The sashes should reach from about twelve inches above the floor line to a height above the switchmens' line of vision, and have no more timber in mountings or corner posts than is absolutely necessary. Diagrams showing the yard and arrangement of switches and signals should be placed in the cabin, not only for convenience in testing the interlocking, but for the assistance of switchmen in learning the machine, and for ready reference.



FRONT VIEW OF LEVER FRAME.

HAND LEVER FRAME.

The Hand Lever Frame of the Cummings Patent System is constructed entirely of iron, and consists essentially of two or more strong columns, two cross-girts, end-plates, floor-plates, the hand levers, and the locking mechanism. In the views accompanying are shown a hand lever frame of thirty hand levers (drawn from the one used at Union Junction, Wilmington), as it appears in the cabin (leaving out the connections from the levers, and portions of the floor, in order to show more distinctly the general construction). Any required number of hand levers can be arranged in frames of the same construction.

A name plate is fixed on the upright frame of the locking mechanism, behind the hand levers, and gives a description of the work each lever has to perform. In addition to the number belonging to each lever, there is placed immediately below it, where necessary, the number or numbers of levers that precede the one to which they are attached. This arrangement greatly assists the switchman in learning the various combinations of levers they are to work.

On the ground level, with the foundations of the cabin, are erected permanent foundations for the columns, so that the lever frame may be solidly supported without aid of the cabin building itself. The lower girt of the frame is placed near the ground level, and is utilized as a support and fulcrum for the bell cranks which connect the rods which lead from the switches, locks and signals with the hand lever connections.

The upper girt of the frame is a short distance below the floor-plate, and serves as a support and fulcrum for the hand levers. The pivots of the hand levers are arranged in line, and while each pivot is permanently secured, any pivot can be readily removed, and a hand lever can be taken out whenever necessary for changes. The hand levers extend through slots in the floor-plate by which they are guided, and terminate with a handle of convenient shape.

SPRING CATCH LEVER.

Each hand lever carries a spring catch to secure the lever at the end of the stroke. The spring catch slides on the hand lever below the floor-plates, and is operated by means of a small catch lever fixed on the hand lever, and a sliding rod which extends down to the spring catch. On the under side of the floor-plate, on each side of the slot, there are arc-shaped flanges, which guide the spring catch while the lever is being moved, and when the hand lever reaches the end of its stroke in either direction, the catch springs past the ends of the arc-shaped flanges and prevents any movement

of the hand lever until the small catch lever has been operated. The spring catch of each lever carries on one side two friction rollers (visible in the rear view of the hand lever frame, beneath the floor-plate); and a segment lever, formed solid from a simple bar of iron and pivoted about its center, extends between the friction rollers in such a manner that any movement of the spring catch will necessarily move one end of the segment lever, either up or down. Each segment lever is connected to the locking mechanism (in the upright frame behind the levers, so that every movement of the segment lever imparts motion to a portion of the locking mechanism. Thus, to move any particular hand lever, it is requisite that the parts of the locking mechanism stand in such relation to each other that the locking mechanism presents no impediment to the movement of such parts connected with that particular hand lever.

In this way the moving catch becomes not only the recipient of the locking, but also the actuator of the locking; and as a consequence it may well be said that the intention of a switchman to move a lever, expressed by his grasping the lever and so moving the spring catch, independently of his putting his intention in force, actuates all the necessary locking.

LOCKING MECHANISM.

By placing the locking mechanism behind the levers, in an upright frame, and the catches and segment levers under the floor-plate, the mechanism for operating the interlocking devices is thus placed out of the way of the feet, and removed from the grit and dirt that would work into and injure the working parts if above the floor plate; also the switchman has a level standing place with nothing to prevent free access to the levers. The locking mechanism consists of a series of vertical locking bars and horizontal sliding bars in an upright frame. The number of vertical bars will be same as the number of levers in the frame. The number of horizontal sliding bars will be in proportion to the number of combinations required in the apparatus. The horizontal sliding bars are placed at a sufficient distance from the locking bars to allow the use of projecting stops on both kinds of bars; and said stops being properly placed when the mechanism is constructed, the position of certain horizontal sliding bars will always control certain levers. The horizontal locking bars are actuated by the vertical locking bars by means of pieces with a diagonal slot fixed on the vertical locking bars, and diamond shaped pieces on the horizontal sliding bar so arranged that the vertical movement of the locking bar will cause a horizontal movement of the sliding bar. If necessary the movement of one vertical locking bar may cause the movement of several horizontal sliding bars, and in either direction.

The system we are describing also comtemplates the use of a variety of combination locks and special locks for controlling the levers in many intricate combinations, (described in letters patent) too tedious to describe here, and by the use of these combinations and special locks, some of which are shown in the rear view of the lever frame, great saving in cost of apparatus may sometimes be effected, and the apparatus rendered more practicable and simple in operation.

OPERATION OF THE LOCKING MECHANISM.

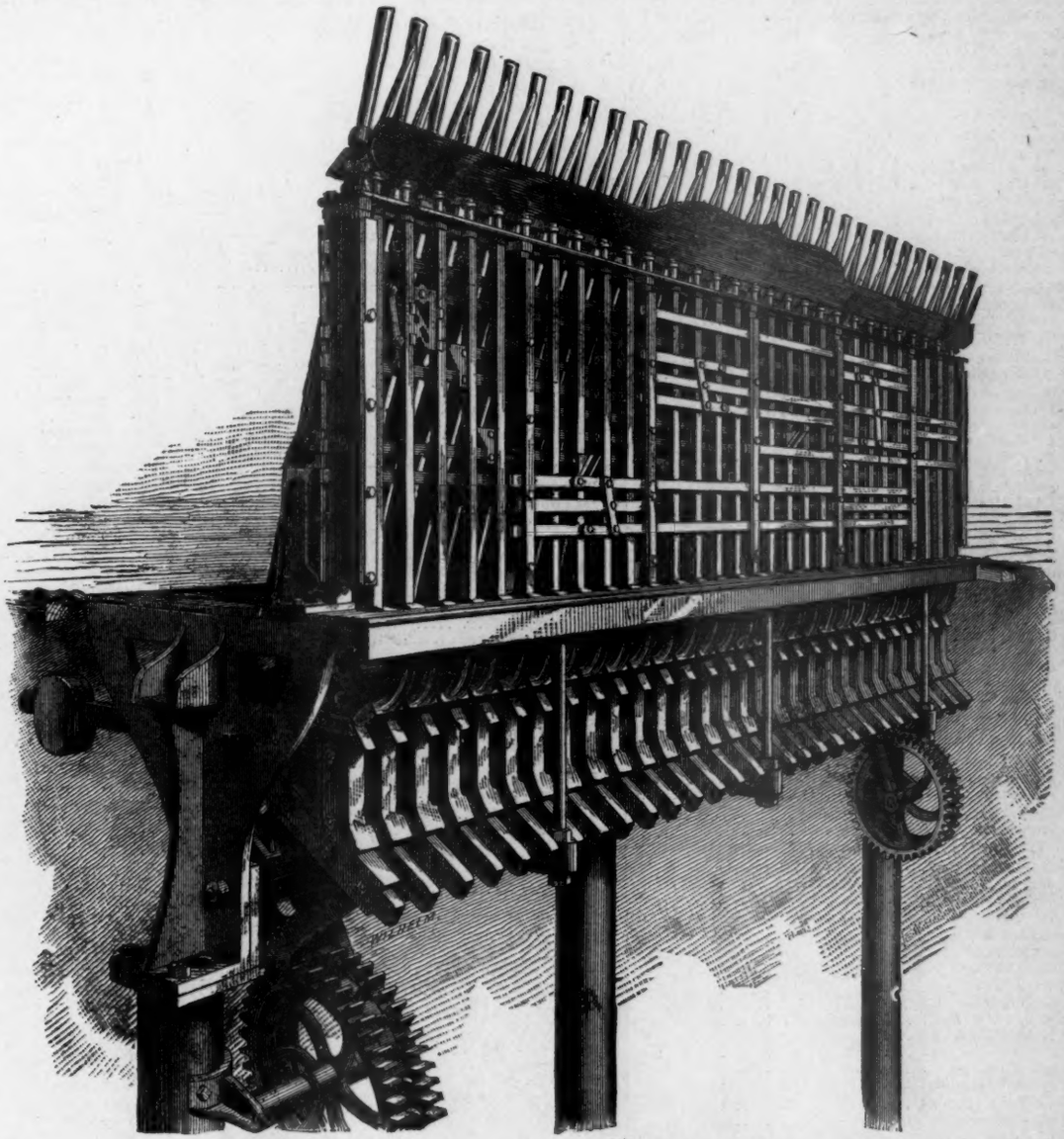
When a hand lever is in its normal position, i.e., nearest the front of the frame, the spring catch being drawn up past the end of the arc, the vertical locking bar and the front end of the segment lever belonging to said hand lever are in their rearmost position. Upon grasping the catch lever and moving the catch out of engagement with the arc, the front end of the segment lever with its vertical locking bar is depressed until the segment lever stands in a position radial to the center or axis on which the hand lever moves. The movement of the segment lever and its vertical locking bar, also moves the horizontal sliding bar sufficient to bring the stops on it under the stops on other vertical bars and thus holds the levers belonging to them.

As the spring catch can move only at the ends of the arc, it follows that the segment lever is not moved during the stroke of the hand lever, because the segment lever stands in a position radial to the axis of the hand lever; when, however, the hand lever is over, and the spring catch is let go, it moves upward past the end of the arc, and carrying up also the back end of the segment lever, the front end of the segment lever is depressed and the vertical locking bar and the horizontal sliding bar complete their movement. The completion of this movement may lock still more levers, and may release others, according to the combination and arrangement of the respective stops.

If a hand lever be left standing in mid stroke or in any position short of a complete throw, and an effort be made to move the other hand levers with which this lever has been interlocked, or even to move the catch levers on them, such an effort would fail, as the stops on the respective vertical and horizontal bars would engage and prevent any movement of them until the hand lever has completed its stroke, and force applied to either lever will not produce any effect to facilitate a movement.

It will be seen that a switchman cannot even commence to make any movement, of either switch or signal, until he has efficiently locked in their proper positions all switches and signals that have any relation to the movement which he intends to make, and that, until he has thoroughly completed the intended movement, and has ceased to meddle with the part of the apparatus which actually sets the switches or signals in motion, all switches or signals affecting the operation which he is performing must be securely locked.

[TO BE CONTINUED].



REAR VIEW OF LEVER FRAME.

The Stock Exchanges and Money Market.

New York Stock Exchange.

Closing Prices for the week ending Jan. 30.

	W. 24.	Th. 25.	F. 26.	Sat. 27.	M. 29.	Tu. 30.
Adams Express	.....	.....	.....	134¾	135	.....
Albany and Susq.	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	106	106½	.....	.....
American Express	92	91¾	92	91¼	91	.....
Burl., C. R. & Nor.	82	.....	.....	83	.....	82½
1st mortgage 5s	101	100¾	101	101	100¾	101
Canada Southern	70	70	69½	69½	70½	69
1st mortgage guar	95⅛	95⅛	.....	.....	95⅝	95⅝
Central of N. Jersey	72¾	72½	71⅝	71⅝	72⅝	72¾
1st mort. 1890	.....	.....	117	.....	.....	.....
7s, consol. ass	110¾	.....	.....	.....	.....	.....
7s, convertible ass	.....	.....	111	111	110¾	110¾
7s, Income	.....	.....	.....	.....	.....	.....
Adjustment	.....	.....	.....	106½	106½	106½
Central Pacific	83⅛	83⅜	83⅛	83⅛	84	83⅝
6s, gold	113⅜	113⅜	.....	.....	.....	113⅜
1st M. (San Joaq)	.....	109⅜	.....	.....	.....	.....
1st M. (Cal. & Or.)	.....	.....	.....	.....	.....	103
Land grant 6s	.....	.....	.....	.....	.....	105⅝
Chesapeake & Ohio	23½	.....	23½	23	.....	.....
1st pref	33⅜	33½	33⅝	32⅛	.....	.....
2d pref	26¼	.....	25⅜	.....	.....	.....
1st mort., series B	91	.....	91	91	91	91
Chicago and Alton	.....	136	136	136	.....	.. ..
Preferred	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	117	.....	.....
Sinking Fund	.....	114¾	.....	114	114	.....
Chi., Bur. & Quincy	123	123¾	122⅜	122⅛	123¾	123¼
7s, Consol. 1903	127	127¼	126½	127	126½	126⅞
Chi., Mil. & St. Paul	106⅛	106⅛	105⅝	106	106½	106⅛
Preferred	120	120¼	120⅛	120	120½	120⅜
1st mortgage, 8s	.....	.....	.....	.....	.....	.....
2d mort., 7 3-10s	.....	126	.....	126¾	126¼	.....
7s, gold	.....	.....	.....	.....	.....	.....
1st M. (La. C. div)	.....	.....	.....	118⅜	.....	.....
1st M. I. & M. div.)	.....	122	122¾	.....	.....	.....
1st.M. (I. & D. ext.)	.....	.....	.....	122½	.....	.....
1st M. (H.&D. div.)	115¾	116¼	117	.....	118	117¾
1st M.(C. & M.div.)	.....	126	.....	.....	.....	.....
Consolidated S. F.	.....	.....	.....	.....	124	.....
Chi. & Northwestern	133¼	132¾	132½	131⅞	132¼	131¼
Preferred	147	146¾	.....	146	146½	146
1st mortgage	.....	.....	.....	.....	.....	.....
Sinking Fund 6s	.....	.....	109¾	110	.....	.....
Consolidated 7s	.....	.....	134	.....	.....	.....
Consol. Gold bo'ds	.....	.....	.....	.....	.....	125½
Do. reg	.....	.....	.....	.....	.....	.....
Chi., R. Isl. & Pac.	123⅛	123⅛	124	123¾	124	123¾
6s, 1917, c	124	.....	.....	124	124	.....
Clev., Col., Cin. & Ind.	.....	78½	78	77¾	.....	80
1st mortgage	.....	.....	.....	.....	.....	.....
Clev. & Pittsburg gr.	.....	.....	142	.....	.....	.....
7s, Consolidated	.....	.....	.....	.....	.....	125½
4th mortgage	.....	.....	120¾	.....	.....	.....
Col., Chi., & Ind. Cent	4	4	....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Del. & Hud Canal.	107½	108¾	108	107¾	107⅝	107⅝
Reg. 7s, 1891	.....	.....	.....	.....	114¾	114½
Reg. 7s, 1884	.....	.....	.....	.....	.....	.....
7s, 1894	.....	.....	.....	.....	.....	.....
Del., Lack. & Western	126¾	126⅝	125¾	126	126	125¼
2d mortgage 7s	.....	.....	.....	.....	.....	.....
Consol. 1907	.....	.....	127	.....	.....	.....
Erie Railway	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	127	.....	.....	.....
2d mort. 5s, ext.	.....	.....	.....	.....	.....	.....
3d mortgage	.....	.....	.....	.....	.....	.....
4th mort. 5s, ext.	.....	.....	.....	.....	.....	.....
5th mortgage	.....	.....	.....	.....	.....	.....
7s, Consol. gold	.....	.....	130½	.....	129¾	.....
Great West. 1st mort	.....	.....	110	.....	.....	.....
2d mortgage	100	.....	.....	.....	.....	.....
Hannibal & St. Jo.	.....	42¾	44½	.....	42½	42½
Preferred	81	82	83	82½	84	85
8s, Convertible	.....	.....	.....	.....	.....	.....
Houston & Tex. Cen	....	75	.....	.....	.....	.....
1st mortgage	.....	108¼	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Illinois Central	145	145½	145¾	146	145⅝	146¼
LakeShore&MichSo	111	110⅞	110½	110¾	111¾	110⅜
Consol. 7s	.....	129	.....	.....	.....	.....
Consol. 7s, reg	.....	.....	.....	..	125¾	....
2d Consolidated	120⅜	.....	.....	.....	.....	.....
Leh. & W. B. con. ass	104½	.....	104¾	104	103¾	.....
Long Dock bonds	....	.....	.....	.....	.....	.....
Louisville & Nash.	55¾	55¼	55¾	55¾	57¾	57
7s, Consol. reg	.....	.....	.....	.....	.....	.....
Manhattan	.....	.....	.....	47¼	.....	48⅛	50
1st pref	.....	.....	.....	87	.....	.....	.....
Met. Elevated	.....	.....	82	80	.....	.....	81
1st mortgage	98½	98¾	98¼	98¼	98¼	98¼	98
Michigan Central	98¼	97⅝	97¾	97⅝	98¼	97⅜
7s, 1902	.....	125¼	125	124⅝	125	.....
Morris & Essex	.....	.....	133¾	122⅜	122½	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
7s of 1871	.....	.....	.....	.....	121½	.....
7s, Convertible	...	.....	.....	.....	.....	.....
7s, Consolidated	.....	122¾	122¾	.....	122¾	
N.Y. Gen. & Hud. R.	127¼	127¾	126¾	126¾	127¼	126⅝
6s, S. F. 1883	.....	.....	101⅜	.....	.....	.....
6s, S. F., 1887	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	130	.....	.....	.....
1st mortgage, reg.	.....	.....	130	.....	.....	.....
N. Y. Elevated	.....	.....	.....	.....	101	.....
1st mortgage	.....	115¾	.....	115¾	116	116
N. Y. & Harlem	.....	.....	.....	.....	200	.....
Preferred	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	130	130¾	.....	.....
1st mortgage, reg	.....	.....	.....	130½	.....	.....
N. Y. Lake Erie & W	39¼	39¼	38¾	38¾	39¾	39½
Preferred	.....	.....	.....	.....	.....	84¾
2d Consolidated	96¼	97	96½	96½	99⅝	97
New 2d 5s fund	96	.....	.....	.....	.....	.....
N.Y., N.Hav'n & Hart	.....	.....	170	170	170	.....
North Mo. 1st mort	.....	119	119	.....	.....	.....
Northern Pacific	48¾	49	48⅞	49	49¼	49⅝
Preferred	84⅞	85⅞	84⅝	84⅞	85¼	85
Ohio & Mississippi.	32½	.....	32⅝	31⅝	.....	.....
Preferred	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Consolidated 7s	116½	.....	.....	.....	.....	.....
Consol. S. Fund	.....	.....	.....	.....	.....	.....
Pacific Mail S. S. Co	39⅛	39⅝	40	39¾	40¾	41¼
Pacific R. R. of Mo.	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Panama	.....	.....	.....	.....	.....	.....
Phila. & Reading	55	55⅛	55⅝	55¼	56	55
Pitts, Ft. W. & Chi. gtd	.....	.....	136½	.....	136	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	133
3d mortgage	.....	.....	.....	.....	.....	.....
Pullman Palace Car	125	124¾	.....	124½	.....	124¾
Quicksil'r Min'g Co	.....	.....	.....	.....	.....	.....
Preferred	.....	.....	37¾	.....	38¼	.....
St. Louis & San Fran	33	.....	.....	.....	33¼	33¾
Preferred	52	51¼	52	50⅜	51¾	52
1st Preferred	.....	.....	.....	93	.....	.....
St. L., Alt'n & T. H.	56	59	60	62	68	68
Preferred	95	97½	99	99½	100	100
1st mortgage	.....	.....	.....	.....	.....	.....
2d mort. pref	.....	.....	111¾	.....	.....	.....
Income bonds	.....	.....	.....	.....	.....	.....
St. L., Iron Mt. & S.	.....	.....	.....	.....	.....	.....
1st mortgage	.....	117	.....	.....	117	.....
2d mortgage	.....	107½	108	109	108	.....
Toledo and Wabash.	107¼	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	100½	100⅞	.....	100¾	.....	.....
7s, Consolidated	.....	.....	.....	.....	.....	.....
St. Louis Division	105	105	105	.....	.....	.....
Union Pacific	101⅝	101⅞	98½	99¼	99¾	99¼
1st mortgage	113⅝	114	.....	.....	113¾	113¾
Land Grant 7s	.....	.....	110¾	.....	.....	.....
Sinking Fund 8s	.....	.....	119½	.....	.....	.....
United States Ex	.....	.....	.....	.....	.....	.....
Wabash, St. L. & Pac	33½	33¼	32¾	32½	33¾	33
Preferred	54¾	54⅞	54	54	54½	53⅝
New mort. 7s	.....	.....	.....	.....	.....	.....
Wells-Fargo Ex	.....	.....	.....	.....	.....	124¾
Western Pacific b'ds	.....	.....	.....	.....	.....	.....
Western Union Tel.	82¼	82	81¾	82	82⅛	82
7s., S.F conv., 1900	.....	.....	.....	.....	.....	.....
FEDERAL STOCKS :—						
U. S. 4s, 1907, reg	119¾	119¼	119⅛	118⅞	118⅞	118⅞
U. S. 4s, 1907, coup.	119⅞	119¾	.....	118⅞	118⅞	118⅞
U. S. 4½s, 1891, reg.	.....	.....	.....	.....	.....	113
U. S. 4½s, 1891, coup	.....	113¾	.....	113	112⅜	113
U. S. 5s, cont'd at 3½	.....	.....	.....	104	...	....
U. S. 3s, reg	.....	.....	.....	.....	.....	104½
Dt. of Col. 3-65s, reg	.....	.....	.....	.....	.....	.....
Dt. of Col. 3-65s, coup	.....	.....	.....	.....	.....	111

Boston Stock Exchange.

Closing Prices for the Week Ending Jan. 30.

	W 24.	Th. 25.	F. 26.	Sat. 27.	M. 29.	Tu. 30
Atch., Top. & San. Fe.	84	83¾	83½	83¾	83¾	83
1st mortgage	121¼	.....	...	121	.....	.....
Land Grant 7s	.....	.....	.....	113¾	.....	.....
Boston & Albany	174	174½	174	173¾	173½	174
Boston and Lowell	.....	100	100½	100	.....	.....
Boston & Maine	...	.....	.....	.....	150	152
Boston & Providence	.....	.....	.....	.....	.....	.....
Bos'n, Hart. & Erie 7s	.....	.....	...	.....	.....	.....
Burl. & Mo. R. L. G. 7s	.....	115¾	116	.....	.....	.....
Burl. & Mo. R. in Neb	.....	.....	.....	.....	.....	.....
6s, exempt	.....	.....	.....	.....	.....	.....
4s	.....	.....	.....	.....	.....	.....
Chi., Burl. & Quincy	122½	123¾	123¼	123	123	123
Cin., Sand. & Clev ($50)	.....	...	.....	.....	24	....
Concord ($50)	.....	.....	.....	.....	.....	.....
Connecticut River	.....	.....	.....	.....	.....	.....
Eastern	41	41	41	41	.....	40
New 6s, Bond	109¾	110	110½	.. .	.....	110
Fitchburg	.....	121	120	120	119½	118
N.Y. & New England	48¼	48¼	48¼	48	48	48¾
7s	.....	.....	115¾	.....	.....	.....
Northern N. H.	.....	.....	...	.....	.....	.....
Norwich & Worcester	.....	.....	.....	.....	.....	.....
Ogden & Lake Cham	.....	.....	.....	.....	.....	.....
Old Colony	137	137	.....	137	137	137¼
Ph., Wil. & Balt. ($50)	.....	.....	.....	.....	.....	.....
Portl'd, Saco & Ports	.....	.....	112¾	....	112¾	.....
Pueblo & Ark Val 7s	.....	113¾	.....	.....	.....	.....
Pullman Palace Car	125¾	125¾	.....	.....	125¾	.....
Union Pacific	102¼	101⅝	99¾	99	99¾	99
6s	.....	116½	.....	113¾	113	113
Land Grant 7s	.....	.....	.....	.....	.....	.....
Sinking Fund 8s	.....	116¾	116¾	.....	116½	116¼
Vermont & Mass	.....	.....	.....	.....	.....	130½
Worcester & Nashua	.....	.....	.....	....	58	....
Cambridge (Horse)	.....	.....	.....	.....	.....	.....
Metropolitan (Horse)	.....	73¼	73	.....	73	73
Middlesex (Horse)	.....	.....	.....	.....	.....	.....
Cal. & Hecla Min'g Co	.....	247	.....	246	245	.....
Quincy	59	60	53¾x	52	51½	51¼

Philadelphia Stock Exchange.

Closing Prices for the Week Ending Jan. 30.

	W. 24.	Th. 25.	F. 26.	Sat. 27.	M. 29.	Tu 30.
Allegh'y Val. 7 3-10s	.....	.....	122¾	.....	.....	.....
7s, Income	.....	.....	.....	.....	49½	....
Buff., Pitts & West.	18	18⅛	18½	18¾	18¼	18¾
Camd'n & Am. 6s, '83	.....	.....	.....	.....	.....	.....
6s, 1889	.....	.....	.....	.....	.....	.....
Mort. 6s, 1889	.....	.....	113	.....	.....	112¾
Camden & Atlantic	.....	.....	.....	.....	.....	.....
Preferred	....	.....	.....	...	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Catawissa	.....	23⅝	.....	.....	. ..	.....
Preferred	.....	.....	.....	.....	.....	.....
2d pref	.....	.....	.....	.....	.....	.....
7s, new	.....	.....	.....	.....	.....	122
Del. & Bound Brook	.....	.....	.....	.....	.....	.....
7s	.....	.....	.....	.....	.....	.....
Elmira & Williamsp't	.....	.....	.....	.....	.....	.....
Preferred	.....	.....	.....	58¾	.....	.....
Hunt. & B. Top Mt.	.....	.....	.....	.....	.....	.....
Preferred	30	. ...	....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Lehigh Navigation.	39¼	39⅝	39½	39¼	....	39½
6s, 1884	.....	103	103	.....	.....	102¾
Gold Loan	....	110¼	.....	110½	110¾	111
Railroad Loan	.....	116¾	.....	.....	.....	.....
Conv. Gold Loan	.....	.....	.....	.....	.....	.....
Consol. Mort, 7s	116½	116¾	.....	.....	.....	.....
Lehigh Valley	64¾	64¾	65¼	65¼	65¼	65¼
1st mort. 6s, coup	....	.....	.....	.....	.....	.....
1st mort. 6s, reg	.....	.....	.....	.....	.....	.....
2d mort. 7s	.....	.....	.....	.....	.....	.....
Consol mort. 6s	....	.....	.....	.....	.....	.....
Consol. mtg. 6s, reg	.....	.....	120¾	.....	.....	.....
Little Schuylkill	.....	.....	58	53¼	.....	.....
Minehill & Sch. Hav'n	.....	.....	....	.....	.....	.....
North Pennsylvania	66	.....	.....	.....	67	67
1st mortgage 6s	.....	.....	.....	.....	.....	.....
2d mortgage 7s	120	.....	.....	.....	.....	.....
Genl. mtg. 7s, coup	.....	.....	.....	.....	.....	.....
Genl. mtg. 7s, reg	....	.....	.....	.....	.....	.....
Northern Central	.....	55⅝	55⅜	55⅛	.....	.....
6s	.....	.....	99¾	99½	99¾	99¾
Northern Pacific	48¾	49	49	48¾	49⅛	49¾
Preferred	84¼	85¼	85	84¾	85	85¾
Pennsylvania R. R.	60¼	60¾	60⅝	60⅝	60¾	60⅝
1st mortgage	.....	.....	.....	.....	.....	.....
Gen'l mort	.....	.....	.....	.....	.....	122½
Gen'l mort reg	.....	.....	.....	.....	.....	125
Consol. mort. 6s	116½	.....	.....	.....	.....	.....
Consol. mort. reg	....	.....	.....	117½	.....	.....
Pa. State 5s, new	.....	.....	117	.....	.....	.....
do 4s, new	.....	.....	.....	.....	.....	.....
do 3½s, 1912	.....	.....	.....	.....	.....	.....
Phila. & Reading	27⅝	27¾	27¾	27⅝	27⅞	28⅛
1st mortgage 6s	.....	.....	.....	.....	.....	.....
7s of 1893	.....	.....	.....	.....	.....	.....
7s, new cert	.....	.....	.....	.....	76	75
Consol. mort. 7s	.....	.....	.....	.....	125	....
Consol. mort. reg	.....	.....	.....	.....	.....	.....
Gen'l mort. 6s	94¾	94½	94⅝	94½	94⅛	94⅝
Def. Income bonds	.....	.....	.....	.....	.....	.....
Philadelphia & Erie	.....	.....	.....	.....	.....	.....
1st mortgage 5s	103¾	.....	103¾	103¾	104	.....
2d mortgage 7s	.....	111½	.....	112	.....	...
Pittsb., Cin. & St. L. 7s	.....	.....	.....	.....	.....	.....
Pitts., Tit. & Buff. 7s	97	98¾	.....	98	....	98¾
Schuylkill Navi't'n	.....	.. ..	.....	.....	.....	.. ..
Preferred	13¾	.....	.....	.....	.....	13¾
6s, 1897	.....	.....	.....	.....	.....	.....
6s, 1907	.....	.....	.....	89¾	.....	.....
United Co. of N. J.	188¾	.....	188¼	188¼	188¾	.....
Hestonville, (Horse)	.....	.....	.....	.....	.....	.....
Chestnut & Walnut)	.....	.....	.....	.....	.....	.....

Baltimore Stock Exchange.

Closing Prices for the Week Ending Jan. 29.

	Tu.23.	W.24.	Th.25.	F.26.	Sat.27.	M.29.
Baltimore & Ohio...	.....	.....	.....	200	.....	.....
6s, 1885.....	105	.....	.....	.....	.....	.....
Central Ohio ($50)...	.....	.....	.....	50	.....	.....
1st mortgage.....	.....	.....	.....	.....	.....	.....
Marietta & Cincin'ti.	.....	.....	.....	.....	.....	.....
1st mortgage, 7s..	.....	.....	.....	.....	131¼	.....
2d mortgage, 7s...	101	101	101⅜	101⅛	101⅜	101⅛
3d mortgage, 8s...	54⅜	54⅝	55	.....	55	.....
Northern Cen. ($50).	55⅛	54¾	55⅛	55⅜	55	55
2d mort. 6s, 1885..	.....	103½	.....	.....	103	....
3d mort. 6s, 1900..	.....	54¾	.....	.....	.....	.....
6s, 1900, gold.....	.....	.....	114¾	.....	114¾	.....
6s, 1904, gold.....	.....	.....	.....	.....	113	113
Pitts. & Connelsv. 7s.	.....	.....	.....	.....	.....	120¼
Virginia 6s Consol..	.....	55	54¾	53	.....	.....
Consol. coupons...	.....	54	53	.....	.....	.....
10-40 bonds.....	40¼	40¼	.....	40⅛	40	39
Def'd Certificates.	.....	.....	.....	.....	.....	.....
New 3s.....	.....	.....	48⅛	49	49⅛	49⅛
Western Maryland..	.....	.....	.....	.....	.....	.....
1st M.,end.by Balt	.....	.....	.....	.....	.....	.....
2d M., do.	.....	.....	.....	.....	.....	.....
3d M., do.	.....	.....	.....	.....	.....	.....
1st M., unendorsed	112	.....	111	....	109½	....
2d M.,end. Wash Co	.....	.....	.....	.....	.....	.....
2d M., preferred...	.....	.....	.....	.....	110	.....
City Passenger R. R.	.....	.....	.....	.....	.....	.....

London Stock Exchange.

	Closing Prices Jan. 12.	Jan. 5.
Baltimore and Ohio 5s, 1927.....107	109	107	109
Central of N. J., $100 shares..... 70	75	70	75
Do. consol. mort.....111	113	110	112
Do. Income Bonds..... 88	92	88	92
Central Pacific of Cal., $100 shs.. 90	91	90	91
Do. 1st mort. 6s, 1895-'98.....115	117	115	117
Det., G'd Haven & Mil. Equip bds.118	120	118	120
Do. Con. M. 5p.c., till '83 after 6p.c.117	119	117	119
Illinois Central $100 shares.....148½	146½	148	149
Do. S. F. 5s, 1903.....103	107	105	107
Lehigh Valley Cons. mort. 1923...115	120	113	120
Louisville and Nashville mort. 6s 94	96	93	95
Do. capital stock $100 shares... 56	57	55⅛	56¼
N. Y. Cen. & Hud. R. mort. bonds.130	135	130	135
Do. $100 shares.....130	131	131½	132¼
Do. mort. bonds (stg.).....119	121	119	121
N. Y. Lake Erie & West. $100 shs. 40¾	41¼	41	41⅛
Do. 6 p. c, pref. $100 shares.... 84	86	85	87
Do. 1st Con. Mort. bonds (Erie).128	132	128	132
Do. do. Funded Coupon bonds.125	130	125	130
Do. 2d Consol. Mort. bonds.... 99	101	99	101
Do. do. Funded Coupon bonds. 97	99	97	99
N. Y., Pa. & Ohio 1st mort. bonds. 51	52	49	50
Do. Prior Lien bonds (sterling).103	106	103	106
Pennsylvania $50 shares..... 61¾	62⅛	61¾	62½
General Mortgage.....121	123	121	123
Phil. & Erie Gen. mort. 6s, 1920...114	116	114	116
Philadelphia & Reading $50 shs.. 28¼	28¾	28	28⅛
General Consol Mortgage. 115	117	115	117
Do. Improvement Mortgage....104	106	104	106
Do. Gen. Mtg.'74, ex-def'd coup. 94	96	94	96
St. L. Bridge 1st mort. gold bond.122	124	122	124
Do. 1st. pref. stock..... 92	96	92	96
S. P'fic of Cal., 1st mort 6s, 1905-6..107	108	106½	107½
Union Pacific 1st mtg. 6s, 1896-9..116	118	116	118
Wabash, St. L. & P. $100 shares.. 35½	36½	35¼	36½
Do. $100 pref shares..... 55½	56½	56	57
Do. gen. mort. bonds..... 81	83	81	83

AMERICAN RAILROAD JOURNAL

Financial and Commercial Review.

WEDNESDAY, JANUARY 31, 1883.

MONEY on call on stock collaterals was quoted during the forenoon, at 3½@4 per cent. After 12:30 o'clock the rate was 3½ per cent, and after 2 o'clock it was 4 per cent.

The posted rates for foreign exchange were 4.83½ and 4.87; the actual rates were as follows: Sixty-day bills, 4.82½@4.83; demand, 4.86@4.83; cables, 4.87@4.87½. Commercial bills were 4.81½@4,81⅝. Continental bills were as follows: Francs, 5.21⅞@5.21¼ and 5.18⅛@5.17½; reichsmarks, 94¾@⅞ and 95½. Guilders, 39⅞ and 40⅛.

The net earnings of the Philadelphia and Erie Railroad for the year 1882 were about $1,400,000 which is more than sufficient to meet fixed charges of the company, which amount to $1,327,355. Of the latter sum, the principal items are $1,062,270 interest on the funded debt, $49,249 drawback to the Allegheny Valley Railroad and about $46,000 State tax on the funded debt.

THE Governing Committee of the New York Stock Exchange have admitted to dealings at the Board the following securities:

Pennsylvania Company—An additional $2,500,000 of the company's 4½ per cent first mortgage gold bonds guaranteed by the Pennsylvania Railroad Company—making the total amount $12,500,000.

Denver and Rio Grande Railway Company—An additional $1,223,000 of consolidated mortgage bonds. These bonds are dated January 1, 1880, thirty years to run at seven per cent.

Bradford, Bordell and Kinzlea Railroad Company—First mortgage 6 per cent bonds, due June 1, 1932, for $500,000, and 5,000 shares of stock of the par value of $100—$500,000 were directed to be placed on the free list. This road has nearly 41 miles completed and in operation, and the net earnings for the six months ending June 30, 1882, were $18,031.73.

Missouri, Kansas and Texas Railroad Company—An additional issue of $903,000 of general consolidated mortgage 6 per cent bonds.

Galveston, Harrisburg and San Antonio Railroad Company—First mortgage 5 per cent gold bonds, due May 1, 1931, $13,500, and second mortgage 6 per cent bonds, due July 1, 1931, $6,750,000, Mexican and Pacific Extension, respectively. These two classes of bonds, together with the 4,800 first mortgage bonds and 1,000 second mortgage bonds, secured by a mortgage upon the road east of San Antonio, already placed upon the stock list, comprise the whole bonded debt of the company, amounting in the aggregate to $26,050,000, upon 931 miles of road, all of which was completed and in earning operation on Jan. 15.

Oregon and Transcontinental Company—First mortgage trust 6 per cent sinking fund bonds, dated November 1, 1882, due November 1, 1922, $6,000,000. These bonds are a direct obligation of this company, additionally secured by a deposit with the Trustee of an equal amount of bonds of the following named railroad companies (branches of the Northern Pacific Railroad), issued at the rate of $20,000 per mile of completed road: The Northern Pacific, Fergus and Black Hills Railroad Company of Minnesota (115 miles completed), $2,300,000; Little Falls and Dakota Railroad Company (87.55 miles completed), $1,755,000; Jamestown and Northern Railroad Company of Dakota (42.40 miles completed), $848,000; Fargo and Southwestern Railroad Company of Dakota (54.86 miles completed), $1,097,000.

Canadian Pacific Railway Company—$55,000,000 capital stock in shares of $100 each. The total amount of capital stock authorized is $100,000,000, but the amount now listed is all that has been issued. In answer to inquiries regarding the financial ability of the company to complete the unfinished portions of the road, and its resources for that purpose, the fiscal agents in this city reply under date of January 15, 1883, as follows: "We have now completed and in operation 1,730 miles, leaving 1,576 miles yet to complete, of which the Dominion Government build at its own expense and transfers to us the portion of road from Port Moody to Kamloops, consisting of 213 miles, thus leaving for the company to build 1,363 miles; the resources for which are the balance of the cash subsidy from the Government, amounting to $17,324,112; the proceeds of land grant bonds not yet drawn from the Government, amounting to $13,191,734; the proceeds of about 18,000,000 acres of selected land, fit for settlement, which the company will hold after retiring the balance of the existing land grant bonds, and the proceeds of the $75,000,000 of stock remaining to be issued, of which a syndicate has just been formed to take $30,000,000. The 1,730 miles now in operation consists partly of the road built and turned over to the company by the Government; partly of the road acquired by purchase, as stated in the official memorandum which accompanied our application, and partly of the line constructed by the company. The latter portions and the cost of the equipment of the whole line have been provided for by the company from its own capital and from the Government subsidies applicable thereto. Under the general law of Canada each railroad is authorized to pay during construction up to six per cent per annum to the stockholders on their stock. The company has paid six per cent upon the stock issued, but we propose hereafter to only pay five per cent upon the capital stock, and that is to apply to all the stock."

The aggregate amount of precious metals produced in the States and Territories west of the Missouri River, including British Columbia (and receipts in San Francisco by express from the west coast of Mexico, during 1882, as reported by Wells, Fargo & Co., shows:—Gold, $30,193,355; silver, $50,155,288; copper, $4,055,037; lead, $8,008,155—total gross result, $92,411,835. California shows a decrease in gold of $1,696,351. Nevada shows a total falling off of $1,484,188, the yield from the Comstock being $1,333,018, as against $1,726,162 in 1881—a decrease of $393,144. The product of Eureka district is $3,176,656, as against $4,127,265 in 1881—a decrease of $953,609. Utah, Colorado, New Mexico and Arizona each show a notable increase on the products of last year. The exports of silver during the year to Japan, China, India, the Straits, etc., have been:—From Southampton, $27,390,000; from Venice, $9,695,000; from Marseilles, $806,000; from San Francisco, $5,375,000—total, $43,266,000, as against $27,000,000 from the same place in 1881.

The receipts of the Province of Quebec from July 1, 1882, to January 1. 1883, (including the balance of $370,172 on hand July 1), were $3,302,218.05; and the expenditure, $2,827,939.45—leaving a balance January 1, 1883 of $474,275.

In Supreme Court Chambers, this city, on the 29th inst., Judge Daniels rendered a decision upon the motion of the Union Pacific Railway Company to set aside the judgment entered by default in favor of the Credit Mobilier of America in October last for $1,299,347.14. He decided to grant the application and set aside the judgment, because it had been irregularly entered without application to the court.

According to the message of the Mayor of Baltimore the bonded debt of that city December 31, 1882, amounted to $36,945,691.75, being

an increase during the year of $559,500, accounted for, however, by the issue of $88,500 of Jones' Falls loan, $100,000 of the repaving loan, and $371,000 of the Western Maryland Railroad loan. There remain to be issued of loans already authorized $2,199,500, which when issued will bring up the aggregate of the city's funded debt to $39,145,191.23, upon a taxable basis of about $246,000,000. The actual income of the city in 1882 is put at $3,897,867.14, being a decrease of income as compared with 1881 of $341,536.45. The expenses of the city government for 1882 are put at $4,108,377.90, an increase of only $1,930.06 as compared with those of 1881, and which, but for an increased expenditure of $35,000 required to meet extraordinary demands upon the health department, would have been less than those of 1881 by $33,069.94. The basis of taxation for 1882 is stated to have been $246,234,056, less the plants of manufacturers, on which no city taxes were paid, amounting to $574,867.

The statement of the business of all lines of the Pennsylvania Railroad east of Pittsburg and Erie for December, 1882, as compared with the same month in 1881, shows an increase in gross earnings of $425,418, an increase in expenses of $443,757 and a decrease in net earnings of $18,339. The twelve months of 1882, as compared with the same period of 1881, show an increase in gross earnings of $4,955,451, an increase in expenses of $3,937,595 and an increase in net earnings of $1,018,056. All lines west of Pittsburg and Erie for the twelve months of 1882 show a surplus over all liabilities of $1,924,365, being a decrease of $723,973 as compared with the same period of 1881.

The following quotations of sales of railway and other securities, for the week, are in addition to those given elsewhere in our columns.

New York.—Atlantic and Pacific 1st, 95; Boston and New York Air Line pref., 8c⅜; Buffalo, New York and Erie 1st, 1916, 130; Central Iowa 1st, 106½; Chicago, St. Paul, Minn. and Omaha, 40¾; do. pref., 1c83⅝; do. consol., 108; Chicago, Burlington and Quincy, Iowa div. 4s, 105¼; Chesapeake and Ohio cur. 6s, 54½; do. 6s, 1911, 99; Chicago, Milwaukee and St. Paul, Southern Minn. div. 1st, 106¾; do. Chicago and Pacific Western div. 1st, 92; do, Chicago and Pacific div. 1st, 108⅞; do. Mineral Point div. 1st, 91⅛; do. Iowa and Dakota div. 1st, 122½; do. La C. and Dav. div. 1st, 94½; Columbus, Hocking Valley and Toledo 1st. 84¾; Chicago and Northwestern S. F. 5s, 100⅛; Clev., Col., Cin. and Ind. consol., 122½; Cedar Falls and Minnesota 1st, 114; Dubuque and Sioux City, 80; Denver and Rio Grande, 48⅛; do. 1st, 1c9; do. consol., 90⅛; East Tenn., Va. and Ga., 9½; do. pref., 17; do. 5s, 72⅛; do. inc., 40; Evansville and Terre Haute, 75; do. 1st, 96½; Elizabethtown, Lex. and Big Sandy 6s, 94⅛; Fort Worth and Denver, 32⅝; do. 1st, 71¾; Flint and Pere Marquette 1st, 112½; Gulf, Colorado and Santa Fe 1st, 111; Hannibal and St. Joseph 6s, consol., 108; Houston and Texas Central genl. mort., 98⅛; Iowa Midland 8s, 131½; Indiana, Bloomington and Western, 33; International and Gt. Northern 1st, 106; do. coupon 6s, 85; Indianapolis, Decatur and Springfield 1st, 1c2; Kansas Pacific 1st consol., 100; do. 6s, Denver div. ass., 107⅜; do. 6s, 1896, 108; Louisville, New Albany and Chicago, 65; do. 1st, 102¼; Long Island, 63; do consol. 5s, 97¾; Lake Erie and Western, 30½; do. 1st, 1c2¾; Louisville and Nashville gen'l mort. 6s, 92¾, do. N. O. and Mobile div. 1st, 91; Lafayette, Bloomington and Muncie 1st, 99; Lake Shore div. bonds, 121¾; Manhattan, 50; Metropolitan 2d, 83; Manhattan Beach, 19; Minneapolis and St. Louis, 28; do. pref., 63¾; do. 1st, 110; do. Pacific Ext 1st, 1c1¾; do. Southwestern Ext. 1st, 110⅝; Missouri, Kansas and Texas, 32½; do. consol., 78, 108¾; do. 2d, 56¼; do. gen'l mort. 6s, 83¾; Missouri Pacific, 103¼; do. 1st consol., 102¼; do. 3d, 1c9; Memphis and Charleston, 45⅜; Milwaukee, Lake Shore and Western pref., 46½; do. 1st, 98½; Mobile and Ohio 1st, 107; do. 2d deben., 51; do. 4th deben., 34; Michigan Central consol. 5s, 100⅛; Michigan Southern S. F., 106; New York, Chicago and St. Louis, 12½; do. pref., 31; do. 1st, 97⅜; Nashville, Chattanooga and St. Louis, 62⅛; New York, Ontario and Western, 26¼; Norfolk and Western pref., 48¾; do. gen'l mort., 101⅝; Northern Pacific 1st, 103; New Orleans Pacific 1st, 89⅝; Ohio Central, 12⅞; do. 1st, 93; Oregon Transcontinental, 86⅜; do. 1st, 95¼; Oregon Short Line 6s, 1c0; Ohio Southern, 12½; Oregon Railway and Nav., 136; do. 1st, 106½; Peoria, Decatur and Evansville, 26; do. Evansville div. 1st, 99; do. inc., 57½; Pennsylvania Co's 4½s, 94½; Rochester and Pittsburgh, 20⅝; do. inc., 45; Richmond and Danville, 57; do. deben., 61; do. 1st, 94; Richmond, Danville and West Point, 28; Richmond and Alleghany 1st, 8c; Rome, Watertown and Ogdensburg inc., 42¾; do, ext. 5s, 74; St. Paul and Duluth, 39½; do. pref., 94; St. Paul, Minn. and Man., 143½; do. 2d, 1c8⅞; do. Dakota Ext. 1st, 11c; St. Louis, Alton and Terre Haute div. bonds, 80; Southern Pacific of Cal. 1st, 1c4¼; South Pacific of Missouri 1st, 103; St. Louis, Kansas City and Northern, R. E. 7s, 108⅝; do. Omaha div. 1st, 108½; St. Louis and Iron Mt. 5s, 77½; do. Cairo and Fulton 1st, 109⅝; St. Louis, Jacksonville and Chicago 1st, 117; South Carolina inc., 61; St. Paul and Sioux City 1st, 113; St. Louis and San Francisco 2d, Class B, 93¾; do. C, 93½; Texas and Pacific, 40¼; do. inc., L. G., 59½; do. Rio Grande div. 1st, 28⅝; Wabash, St. Louis and Pacific, Toledo, Peoria and Western 1st, 107½; do. Cairo div. 1st. 1st, 82; Arkansas 7s, L. R., P. B. & N. O., 46; do. Central, R. R., 22; do. M., O., & R. R., 45; do. L. R. & Ft. S., 58; do. M. & L. R. R., 50; Alabama, Class A, 8⅝¾; do. C, 85; Georgia 6s, 1886, 106; do. 7s, gold, 114; Louisiana consol., 73½; Missouri 6s, 1887, 1c7; do. 1886, 106; North Carolina special tax. 7½; do. consol. 4s, 79; Tennessee 6s, old, 45½; do. compromise bonds, 46; American Cable, 67½; Mutual Union Tel., 22½; do. 6s, 75; Colorado Coal and Iron, 31½; do. 6s, 84; Cameron Coal, 17½; Homestake, 17¾; Ontario, 35; Standard, 6.

Boston.—Atlantic and Pacific 6s, 94; do. inc., 2c; Atchison, Topeka and Santa Fe mort. 6s, 102; Boston, Revere Beach and Lynn, 116; Boston Land, 6½; Boston Water Power, 3½; Boston, Clinton, Fitchburg and New Bedford, 56; Chicago, Iowa and Nebraska, 144; Connotton Valley, 3½; do. 6s, 34; do. 5s, 32; Chicago, Burlington and Quincy 7s, 126½; do. 4s, 86½; do. Denver ext. 83¾; Chicago, Milwaukee and St. Paul, Dubuque div. 6s, 103¼; Cincinnati, Sandusky and Cleveland 7s, 1c3; Central of Iowa, 2d pref., 26; California Southern, 9; Chicago and West Michigan, 61; Detroit, Lansing and Northern 7s, 117½; Easton (N. H.) R. R., 88; Flint and Pere Marquette, 25; do. pref., 99; Iowa Falls and Sioux City, 88¾; Kansas City, Fort Scott and Gulf, 82½; do. 7s, 112½; Kansas City, Springfield and Memphis blocks, 101⅛; Louisiana and Missouri River, 11; Little Rock and Ft. Smith, 34; do. 7s, 96¾; Marquette, Houghton and Ontonagon, 67½; Mexican Central, 2c; do. 7s, 71; do. blocks No. 3, 96; Massachusetts Central, 4; Maine Central, 87⅛; New York and New England 6s, 105⅝; New Mexico and Southern Pacific 7s, 113⅜; Ogdensburg and Lake Champlain consol. 6s, 95; do. inc. 35; Portsmouth, Gt. Falls and Conway, 27; Rutland pref., 19; Sonora 7s, 105⅝; Southern Kansas and Western 7s, 109½; Toledo, Delphos and Burlington, Branch inc., 12¾; Toledo, Cincinnati and St. Louis, 5; Vermont and Canada, 18; Wisconsin Central, 15; do. pref., 27; Wichita and Southwestern 7s, 105; Allouez Mining Co., 2⅝; Franklin, 14⅝; Napa Consol. Quicksilver, 3¼; Osceola, 30; Sullivan, 1; Silver Islet, 6.

Philadelphia.—Am. Steamship Co. 6s, 106; Belvidere Delaware 2d, 105; Buff., Pitts. & Do. 3d, 1c6; and Western pref., 24; Central Transp., 34; Chesapeake and Delaware Canal 6s, 85; Huntington and Broad Top Mt. consol. 5s, 89; Nesquehoning Valley, 54; Norfolk and Western pref., 49; Philadelphia, Germantown and Norristown, 106; Philadelphia City 6s, 1894, 113¾; do. 6s, 1900, 133; Philadelphia and Reading adj. scrip. 87; do. gen'l mort. 7s, 101¼; do. deben. 6s, 66½; do. consol. 5s, second series. 60; Philadelphia, Wilmington and Baltimore 4s, 93; Pennsylvania R. R. scrip., 121; Pennsylvania Canal 6s, 86½; Pennsylvania and New York Canal 7s, 1907, 124½; do. 1896, 121; Susq. Canal 6s, 63¾; Union and Titusville 7s, 93; Western Pennsylvania 6s, 115; West Jersey R. R. 6s, 105; do. 7s, 122; Warren and Franklin 7s, 114. The latest quotations are: Pennsylvania State 5s, new loan, 116⅛@117⅜; do. 4s, old, 110@112; do. 4s, new, 112@115; Philadelphia and Reading Railroad, 27⅛@27⅝; do. consol. mort. 7s, reg., 125@126; do. gen'l mort. 6s, coupon, 94@95; do. 7s, 1893, 120@121; do. 7s, new conv., 74@76; do. gen'l mort. 7s, 101@101¾; do. consol. mort. 5s, 1st series, 75⅛@95; do. 2d series, —@62⅛; United New Jersey R. R. and Canal, 188@189; Buffalo, Pittsburg and Western, 18@18¼; Pittsburgh, Titusville and Buffalo 7s, 98@98½; Camden and Amboy mort. 6s, 1889, 112@112¾; Pennsylvania R. R., 60⅝@60¾; do. general mort. 6s, coupon, 124@125; do. reg., 125@125¼; do. consol. mort. 6s, reg., 117@119; Little Schuylkill R. R., 58@59; Schuylkill Navigation pref., 13@14; do. 6s, 1882, 89@90; Elmira and Williamsport pref., 58@59; do. 5s, 99@100; Lehigh Coal and Navigation, 39¼@39⅝; do. 6s, 1884, 102½@103; do. R. R. loan, 115½@117; do. Gold Loan, 110⅛@—; do. consol. 7s, reg., 116¼@117; North Pennsylvania, 66¾@67¼; do. 6s, 103@104; do. 7s, 119@—; do. 7s, General mort. reg., 124@—; Philadelphia and Erie, 19@21; do. 7s, 112@112½; do. 5s, 103½@104; Minehill 61½@62; Catawissa, 22@24; do pref., 56@—; do. new pref., 55@—; do. 7s, 1900, 121@123; Lehigh Valley, 64¾@65½; do. 6s, coupon, 12c@121; do. reg., 121@122; do. 7s, reg., 133@134; do. consol. mort. reg., 122; Fifth and Sixth streets (horse), 190@200; Second and Third, 112@116; Thirteenth and Fifteenth, 75@8c; Spruce and Pine, 42½@44; Green and Coates, 75@81; Chestnut and Walnut, 85@92; Germantown, 65@71; Union, 110@—; West Philadelphia, 135@—; People's, 6¼@—; Continental, 100@103.

Baltimore.—Atlanta and Charlotte, 60¾; do. 1st, 104¾; do. inc., 75; Baltimore City 6s, 1900, 124½; do. 6s, 1886, 106; do. 6s, 1890, 113½; do. 5s, 1916, 122½; do. 4s, 1920, 110½; Charlotte, Columbia and Augusta, 30½; do. 1st, 1c9; Columbia and Greenville 1st, 101½; do. 2d, 73; Cincinnati, 7.3c8, J. & J., 131½; Canton Co. 6s, 109; George's Creek Coal, 91; Maryland Defense 6s, 1c2½; Northern Central 5s, Series A, 09½; do. B, 95½; North Carolina consol. 4s, 79½; Ohio and Mississippi, Springfield div. 1st, 115¾; Richmond and Danville gold 6s, 93¾; Virginia and Tennessee 8s, 125; Virginia 1c.40 coupons, 55; Virginia Midland pref., 6o; do. 1st mort., 112; do. 2d mort., 1c8½; do. 3d mort., 91; do. 5th mort., 96; Wilmington and Weldon 7s, 120¼; Wilmington, Columbia and Augusta, 91½; do. 6s, 1c9½. The latest quotations are: Atlanta and Charlotte 1st, 104⅝@1c5; Baltimore and Ohio, 2co@2c5; do. 6s, 1885, 104⅜@—; Columbia and Greenville 1st, 101⅛@101¼; Canton 6s, gold, 1c8½@11c; Marietta and Cincinnati 7s, 1891, 131@131½; do. 7s, 1896, 1c1⅛@101⅝; do. 8s, 1890, 54¾@55; Norfolk Water 8s, 132@—; Northern Central, 55@—; do. 6s, 1904, gold, 112⅛@113; do. 5s, Series A, 99@1.00; do. B, 95½@—; Ohio and Mississippi, Springfield div. 1st, 115@116; Richmond and Danville gold 6s, 93⅛@—; Virginia consol., 51@51½; do. 1c-40s, 39@39½; do. 3s, 49@49½; Virginia Midland 5th mort., 95@96; do. inc., 50@57½; Wilmington and Weldon 7s, 12c@120¼.

ILLINOIS CENTRAL RAILROAD COMPANY.
FORTY-FIRST SEMI-ANNUAL CASH DIVIDEND.

The Board of Directors have declared a dividend of THREE AND ONE-HALF per cent in cash, payable March 1, 1883, to the shareholders of the ILLINOIS CENTRAL RAILROAD COMPANY as registered at the close of business on Feb. 10. They have also declared an extra dividend of ONE-HALF OF ONE per cent in cash, payable at the same time to said shareholders, out of the earnings of the SOUTHERN DIVISION for the six months ending Dec. 31, 1882. The stock transfer-books will be closed from and after Feb. 10, until the morning of March 5. L. V. F. RANDOLPH, Treasurer.

NEW YORK, Jan. 18, 1883.

THE LAKE SHORE AND MICHIGAN SOUTHERN RAILWAY CO.,
TREASURER'S OFFICE,
GRAND CENTRAL DEPOT,
NEW YORK, Dec. 22, 1882.

THE BOARD OF DIRECTORS OF THIS COMPANY have this day declared a quarterly dividend of TWO PER CENT upon its capital stock, payable on THURSDAY, the FIRST day of FEBRUARY next, at this office.

The transfer books will be closed at 3 o'clock p. m. on FRIDAY, the 29th inst., and will be reopened on the morning of Monday the 5th day of February next.

F. W. VANDERBILT, Acting Treasurer.

OFFICE CENTRAL PACIFIC RAILROAD COMPANY,
SAN FRANCISCO, Jan. 5, 1883.

THREE DOLLARS PER SHARE WILL be paid on presentation of dividend warrant No. 15 on or after Feb. 1, at this office, or at the office of the company, No. 23 Broad-st., New York. Transfer-books will be closed from 3 P. M., Jan. 15, to 10 A. M., Feb. 3. By order of the Board of Directors.

E. H. MILLER, Jr., Secretary.

GEO. R. WOOD,

IRON AND RAILWAY BUSINESS.

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BOSTON.

NATIONAL EXPOSITION

—OF—

RAILWAY APPLIANCES,

TO BE HELD IN

CHICAGO, from THURSDAY, the 24th day of May, to SATURDAY, the 23d day of June, 1883, in the INTER-STATE EXPOSITION Buildings, the largest and best adapted for the purpose in the United States.

GOLD, SILVER AND BRONZE

MEDALS

For Superior Merit.

An abundance of STEAM POWER for running Machinery, and tracks for Locomotives and Cars.

Scientific and Practical Tests by the ablest Scientists and carefully selected Committees.

The Financial Stability of the Exposition secured by a GUARANTEE FUND of

FIFTY THOUSAND DOLLARS.

The proceeds, after payment of Expenses, to be devoted to BENEVOLENT PURPOSES connected with the RAILWAY SERVICE.

All material and articles properly coming under the head of RAILWAY APPLIANCES or SUPPLIES admitted.

FOR FULL INFORMATION address the SECRETARY, care GRAND PACIFIC HOTEL, CHICAGO.

E. H. TALBOTT, *Secretary.* LUCIUS FAIRCHILD, *President.*

COMMISSIONERS:

Hon. LUCIUS FAIRCHILD, Ex-Governor of Wisconsin and late Minister at Madrid, Spain.
GEO. M. PULLMAN, President Pullman's Palace Car Co., Chicago.
AARON FRENCH, Pittsburgh Car-Spring Co., Pittsburgh.
J. MCGREGOR ADAMS, Adams and Westlake Mf'g Co. etc., Chicago.
E. V. CHERRY, Vice-President Post & Co., Railway Supplies, Cincinnati.
A. G. DARWIN, President Allen Paper Car-Wheel Co., New York.
O. W. POTTER, President North Chicago Rolling Mill Co., Chicago.
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One new 3ft. Gauge Passenger Engine, 22 tons, prompt delivery.
Six new 4ft. 8½ Gauge Locomotives, cylinders 17x24 weight 35 tons. November and December delivery.
Two new 3ft. Gauge Locomotives, Cylinders 12x18, weight 20 tons. December and January delivery.
Cars—Passenger and Freight Cars of all descriptions for early delivery.
Rails—16lb., 20lb. 30lb. 35lb. and 56lb. Rails.
Car Wheels and Axles.
Narrow-Gauge Rolling-stock a specialty.

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RAILROAD AND CANAL DIVIDEND STATEMENT.

Showing the amount of Stock Outstanding, the Dividend Periods and the date of last Dividend.

Marked thus(*)are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividend Payable.
Albany and Susq*...100	2,500,000	semi-an	Jan. '83 2
Atch., Top. and S. Fe100	54,000,000	q'arterly	Feb. '83 1½
Atlanta and W. Point100	1,232 200	semi-an	Jan. '82 6
Atlantic and St. Law*100	5,840,000	semi-an	Sept. '82 3
Augusta and Savan'h100	1,022,900	semi-an	June'81 3½
Avon,Genesee&MtM*100	225,000	semi-an	July '81 3
Baltimore and Ohio. 100	14,792,566	semi-an	Nov. '82 5
" " pref.100	5,000,000	semi-an	Jan. '83 3
Washington Br....100	1,650,000	semi-an	Nov. '82 5
Berkshire*.....100	600,000	q'arterly	Apl. '82 1¾
Boston and Albany..100	20,000,000	q'arterly	Dec. '82 2
Bos.&N.Y.AirLine pf.100	2,795,227	q'arterly	June'82 1
Bos.,Cl.,F.&N.B.pref.100	1,750,100	semi-an	Oct. '82 3½
Bos.,Conc.&Mont.pf*100	800,000	semi-an	Nov. '82 3
Boston and Lowell..500	3,940,000	semi-an	Jan. '83 2½
Boston and Maine...100	6,921,274	semi-an	Nov. '82 4
Boston & Providence100	4,000,000	semi-an	Nov. '82 4
Attleborough Br...100	131,700	semi-an	Jan. '83 3½
Bos.,Revere B &Lynn100	419,400	semi-an	Jan. '83 3
Buffalo,N. Y. & Erie*.100	950,000	semi-an	Dec. '82 3
Buff.,Pitts. & West.pf. 50	1,457,000	.....	Jan. '83 3
Camden & Atlantic.. 50	377,400	q'arterly	Nov. '82 3
" " pref. 50	880,650	q'arterly	Nov.'82 4
Camden & Burl. Co...100	381,925	semi-an	July '82 3
Canada Southern....100	15,000,000	.....	Feb. '81 2½
Cape May &Millville* 50	447,000	semi-an	June'81 3
Catawissa*..... 50	1,159,500	annual	Oct.'82$2½
" pref..... 20	2,200,000	semi-an	Nov. '82 3½
" new pref.. 50	1,000,000	semi-an	Nov. '82 3½
Cayuga and Susq.*... 50	589,110	semi-an	July '81 4½
Cedar Rapids&Mo.R*100	6,850,400	q'arterly	Feb. '83 1½
" " pref.100	769,600	semi-an	Feb. '83 3½
Central of Georgia...100	7,500,000	semi-an	June '82 4
Central of New Jersey100	18,563,200	q'arterly	July '76 2½
Central Ohio*..... 50	2,437,950	semi-an	J n.'83 3
" pref... 50	411,550	semi-an	Jn. '83 3
Central Pacific 100	59,275,500	semi-an	Feb. '83 3
Cheshire preferred ..100	2,155,300	semi-an	J n. '83 1½
Chicago and Alton...100	11,181,741	semi-an	Sept. '82 4
" " pref 100	2,245,400	semi-an	Sept. '82 4
Chi., Burl. & Quincy.100	69,508,105	q'arterly	Dec. '82 2
Chi., Iowa & Nebras*.100	3,916,200	semi-an	Jan. '83 4
Chi., Mil. & St. Paul.100	20,404,261	semi-an	Oct. '82 3½
" pref 100	14,401,483	semi-an	Oct. '82 3½
Chi. & N. Western...100	14,988,257	semi-an	Dec. '82 3½
" pref.100	21,525,353	q'arterly	Dec. '82 2
Chi., R. I. & Pacific..100	41,960,000	q'arterly	Feb. '83 1¾
Chi. and West Mich .100	6,151,000	semi-an	Feb. '82 2½
Chi.,St.P.,M.&O.pref.100	10,390,000	q'arterly	Jan. '83 1½
Cin.,Ham.&Dayton...100	3,500,000	semi-an	Jan. '83 3
C., Ind., St. L. & Chi..100	6,000,000	q'arterly	Jan. '83 1½
Cin., Sand. & Clev.pf. 50	429,037	semi-an	Nov. '82 3
Clev.,Col.,Cin. & Ind.100	14,991,800	.....	Feb. '83 2
Clev. and Pittsburg* 50	11,244,336	q'arterly	Dec. '82 1¾
Columbus & Xenia*. 50	1,786,200	q'arterly	Dec. '82 2
Col.,Hock.Val.&Tol..100	10,316,500	.....	Jan. '83 2½
Concord 50	1,500,000	semi-an	Nov. '82 5
Concord and Ports.*.100	350,000	semi-an	Jan. '83 3½
Conn.& Passump.Riv100	2,244,400	semi-an	Feb. '83 3
Connecticut River ..100	2,100,000	semi-an	Jan. '83 4
Cumberland Valley.. 50	1,292,950	q'arterly	Jan. '83 2½
" 1st pref 50	241,900	semi-an	Oct. '82 4
" 2d pref. 50	243,000	semi-an	Oct. '82 4
Danbury & Norwalk. 50	600,000	.....	Oct. '82 2½
Dayton and Mich.*.. 50	2,402,573	semi-an	Oct. '82 1¾
" " pref. 50	1,211,250	q'arterly	Jan. '83 2
Delaware*..... 25	1,468,940	semi-an	Jan. '83 3
Del. & Bound Brook*100	1,652,000	q'arterly	Nov. '82 1¾
Del., Lack.& Western 50	26,200,000	q'arterly	Jan. '83 2
Denver & Rio Grande.100	29,160,000	q'arterly	Jan. '82 1½
Detroit, Lans. & Nor.100	1,825,600	semi-an	Feb. '83 2½
" " pref.100	2,508,380	semi-an	Aug. '82 3½
Dubuque&Sioux C'y*100	5,000,000	semi-an	Oct. '82 3
East Pennsylvania*.. 50	1,709,550	semi-an	Jan. '83 3
East Mahanoy*..... 50	392,950	semi-an	Jan. '83 3
Eastern (N. H.).....100	492,500	semi-an	Dec. '82 2½
Eel River.....100	3,000,000	q'arterly	Dec. '82 $1
Elmira&Williamsp't* 50	500,000	semi-an	Nov. '82 1½
" " pref. 50	500,000	semi-an	July '82 3½
Erie and Pitsburg*.. 50	1,998,400	q'arterly	Dec. '82 1¾
Evansville & Terre H.100	100,000	semi-an	Jan. '83 6b
Fitchburg.....100	4,500,000	semi-an	Jan. '83 3
F. & P. Marquette pf.100	6,500,000	semi-an	Jan. '83 3½
Ft.W. & Jackson pref.100	2,000,000	.....	May '82 2
Georgia. 100	4,200,000	q'arterly	July '82 2½
Granite 100	1,250,000	semi-an	Jan. '83 3
Green w'h&Johnsonv.100	118,000	semi-an	Jan. '83 4
Han. & St. Jo. pref .100	5,083,024	semi-an	Feb. '83 3
Harrisbg&Lancaster 50	1,182,500	semi-an	July '82 3½
H'ford &Conn.West'n 100	.....	.....	Nov.'82 1½
Housatonic pref. ...100	1,180,000	q'arterly	Jan. '83 2
Illinois Central.....100	39,000,000	semi-an	Mar. '83 4
Ia.Falls & Sioux City*100	4,623,500	q'arterly	Dec. '82 1¾
Iowa R.R.& Land Co.100	7,620,000	q'arterly	Feb. '83 1
Jeffersonv. Mad.&Ind100	2,000,000	q'arterly	May '82 1¾
Joliet and Cicag*...100	1,500,000	q'arterly	June'82 1¾
Kan. C.,Ft.S.&Gulf....100	4,000,000	.....	Feb. '82 2
" " pref...100	2,750,000	semi-an	Aug. '82 4
Kentucky Central...100	500,000	semi-an	June'81 1
" " pre f...100	5,583,500	semi-an	June'81 1
L ke Shore&Mich.So.100	49,466,500	q'artery	Feb. '83 2
" " (guar.)100	533,500	semi-an	Feb. '83 5
Lawrence*..... 50	450,000	q'arterly	Jan. '83 2
Lehihgh Valley..... 50	27,496,895	q'arterly	Jan. '83 2
" pref. 50	106,300	q'arterly	Jan. 83 2

Marked thus(*)are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividend Payable.
Little Miami..... 50	4,637)300	q'arterly	Dec. '82 2
Little Rock & Ft. S..100	4,096,135	.....	July' 81 108
Little Schuylkill*.. . 50	2,646,100	semi-an.	Jan. '83 3½
Long Island..... 50	10,000,000	q'arterly	Feb. '83 1
Louisville & Nashv..100	19,130,913	semi-an.	Feb. '82 3
Lowell & Andover...100	500,000	semi-an.	Jan. '82 3½
Lykens Valley.....100	600,000	q'rterly.	Oct.' 81 2½
Manchester & Law..'00	1,000,000	semi-an.	Nov. '82 5
Manhattan 100	13,000,000	.....	.....
" " 1st pref.100	6,500,000	q'rterly.	Jan. '83 1½
" " 2d pref.100	6,500,000	q'rterly.	Jan. '83 1½
Marietta& Cincinnati 50	1,386,350	.....	.....
" " 1st pref 50	8,105,600	semi-an.	Sep. '66 38
Marq.Hout.& Ont.....100	2,306,600	.....	Feb. '83 4
" " pref...100	2,259 026	semi-an.	Feb. '83 4
Massawippi*..... 100	400,000	semi-an.	Feb. '83 3
Metropolitan 100	6,500,000	q'rterly.	Oct. '82 1½
Michigan Central...100	18,738,204	.....	Feb. '83 2
Middlesex Central...100	280,000	semi-an.	Feb. '83 3
Mill Creek& Minehill* 50	323,000	semi-an.	Jan. '83 5
M.Hill& Schuyl.Hav* 50	4,022,500	semi-an.	Jan. '83 3½
Missouri Pacific.....100	28,169,800	q'rterly.	Jan. '83 1¾
Mobile&Montgomery100	3,022,517	semi-an.	Feb. '80 2½
Morris and Essex.... 50	15,000,000	semi-an.	Jan. '83 3½
Mt Carbon&PtCarbon 50	282,350	semi-an.	Jan. '83 6
Nashua and Lowell..100	800,000	semi-an.	Nov. '82 4
Nashua & Rochester.100	1,305,800	semi-an.	Oct. '82 1½
Nashv. & Decatur...100	1,827,000	semi-an.	June'81 3
Nash.,Chat.&StLouis 25	6,670,325	semi-an.	Apl. '82 1½
Naugatuck.....100	2,000,000	semi-an.	July '82 5
Nesquehoning Val'y* 50	1,300,000	semi-an.	Sept.'82 3
N.Castle&Beaver Val* 50	600,000	q'rterly.	Oct. '81 —
NewLondonNorth'n*100	1,500,000	q'rterly.	Oct. '82 1½
N. Y. Cen. & Hud. R.100	89,428,330	q'rterly.	Jan. '83 2
N. Y. and Harlem....100	7,950,000	q'rterly.	Jan. '83 4
" " pref.100	1,500,000	q'rterly.	Jan. '83 4
" City Line.. —	.....	annual	Apl. '82 3
N.Y.,LakeErie&West.100	77,087,600	.....	.....
" " pref.100	7,987,500	annual..	Jan. '83 6
N. Y., N. H. & Hart..100	15,500,000	semi-an.	Jan. '83 5
N. Y., Prov. & Boston100	3,000,000	q'rterly.	Nov. '82 2
Niag.Bridg&Canand*100	1,000,000	semi-an.	July '81 3
North Carolina*.....100	3,000,000	semi-an.	Sep. '81 3
" " pref.100	1,000,000	semi-an.	Sep. '81 3
N. Eastern (S.C.) pref100	86,000	semi-an.	May '81 4
Norfolk & Western pref. 100	15,000,000	q'rterly.	Dec. '82 $1
North Pennsylvania. 50	4,527,150	q'rterly.	Nov. '82 1¾
Northern Central.... 50	6,142,000	semi-an.	Jan. '83 4
Northern N. Hampsh100	3,068,400	semi-an.	Dec. '82 3
Northern Pacific pref100	42,312,589	.....	Jan. '83 11.1
Norwich&Worcester*100	2,604,400	semi-an.	Jan. '83 5
Oregon &Transcont'l.100	40,000,000	q'rterly.	Jan. '83 1½
Old Colony.....100	7,333,800	semi-an.	Jan '83 3½
Oregon R'way&Nav.100	6,000,000	q'rterly.	Feb. '83 2½
Oswego & Syracuse..100	1,320,400	semi-an.	Aug.'81 4½
Panama..... 100	7,000,000	semi-an	Jan. '83 6½
Paterson & Hudson*.100	630,000	semi-an.	July '82 4
Paterson & Ramapo.100	248,000	semi-an.	July '82 4
Pember.&Hightst'n*. 50	342,150	semi-an.	Jan. '82 3
Pennsylvania..... 50	83,786,570	semi-an.	Nov. '82 4½
Pennsylvania Co. .. 50	20,000,000	annual	Dec. 82 4
Peoria & Bureau Val*100	1,200,000	semi-an.	Feb. '83 4
Philadelphia & Erie*. 50	7,013,700	semi-an.	.....
" " pfd 50	2,400,000	semi-an.	Jan. '75 4
Phil,Ger.&Norrist'n* 50	2,231,900	q'rterly.	Dec. '82 3
Phil. and Reading... 50	32,726,375	q'rterly.	Jan. '76 2½
" " pref. 50	1,551,800	q'rterly.	July '76 3½
Phila. and Trenton..100	1,259,100	q'rterly.	Jan. '83 2½
Phila., Wil. and Balt. 50	11,585,750	semi-an.	Jan. '83 4
Pittsb.,Ft. W. & Chi.*100	19,714,285	q'rterly.	Jan. '83 1¾
" Special Imp.100	6,770,900	q'rterly.	Jan. '83 1¾
Pittsfield&N.Adams..100	450,000	semi-an.	Jan. '83 2½
Portl., Saco & Portsm100	1,500,000	semi-an.	Jan. '83 3
Providence &Worces.100	2,000,000	semi-an.	Jan. '83 3
Rensselaer&Saratog.*100	7,000,000	semi-an.	Jan. '83 4
Richmond& Danv...100	5,000,000	q'rterly.	Aug. '82 2
Richmond & Petersb100	1,009,300	semi-an.	Aug. '82 2
Roch.&Genesee Val.*100	555,200	semi-an.	Jan. '83 3
RomeWater.&Ogdens100	5,293,900	.....	Jan. '83 3
Rutland preferred.. 100	4,000,000	semi-an.	Sept. '82 1
St.L.,Alt. & T. Haute.100	2,300,000	.....	.....
" " pref.100	2,468,406	.....	Dec. '82 4
St.L.&S.Fran.1st pref100	4,500,000	semi-an.	Feb. '83 3½
St.L., I.Mt.&South'n.100	21,459,921	semi-an.	Feb. '74 3
St.L.,Jac'ville & Chic.100	1,293,000	.....	Aug. '82 4½
" " " pref.100	1,034,000	.....	Aug. '82 4½
St. P. & Duluth pref.100	4,705,000	semi-an.	Jan. '83 3½
St. P., Minn. & Man..100	20,000,000	q'rterly.	Feb. '83 2
Schuylkill Valley*... 50	576,050	semi-an.	Jan. '83 2½
Seaboard & Roanoke.100	1,229,600	semi-an.	Nov. '82 5
Shamokin V.&Pottsv 50	669,450	semi-an.	Feb. '82 3
Shore Line*.....100	1,000,000	semi-an.	July '82 4
Sioux C.&Pacific pref100	169,000	semi-an.	Oct. '82 3½
South Br. (N. J.)*....100	438,300	semi-an.	Jan. '82 3
South Western (Ga.)*100	3,892,300	semi-an.	Dec. '82 3½
Stockbridge&Pitts.*.100	448,700	q'rterly.	Jan. '83 1½
Syr.,Bingham&N.Y.*100	2,500,000	semi-an.	Aug. '82 2
Terre Haute & Ind...100	1,988,150	semi-an.	Feb. '83 4
Union Pacific.....100	60,854,105	q rterly.	Jan. '83 1¾
United Cos of N. J.*.100	20,490,000	q'rterly.	Jan. '83 2½
Utica, Shenango&S V100	4,000,000	semi-an.	Nov.'82 3
Utica and Black Riv.100	1,772,000	semi-an.	Sept '82 2
Vermont and Mass..100	3,050,000	semi-an.	Oct .'82 3
Ve ont Valley.... 100	1,000,000	.....	Jan. '83 3
Wab. St.L.&Pac.pref.100	22,615,100	q'rterly.	Nov.'81 1½

Markedthus(*)are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividend Payable.
Ware River*.....100	750,000	semi-an.	Jan. '83 3½
Warren (N. J.).....100	1,800,000	semi-an.	Apl. '82 3½
Warwick Valley.....100	340,000	semi-an.	July '82 2½
Westchest&Phil.pref.100	821,300	semi-an.	July '80 2
West Jersey.....100	1,359,750	semi-an.	Sept. '82 3
Wilmingt'n&Weld'n.100	1,456,200	semi-an.	July '82 3½
Wil., Col., & Aug 100	960,000	semi-an.	Jan. '83 3
Winchester&Poto'c.*100	180,000	semi-an.	Jan. '83 3
Winchester&Strasb.*100	74,700	semi-an.	Jan. '83 3
Worcester & Nashua. 75	1,789,800	semi-an.	Jan. '83 1½
HORSE-POWER R. R.			
Albany City.....100	200,000	annual	.....'80 5½
Baltimore City..... 25	1,000,000	semi-an.	Jan. '83 3
Balt.,Cat.&El.Mills..100	8c,ccc	semi-an.	Jan. '83 2½
BleeckerSt.&Ful.F'y.100	900,000	semi-an.	July '82 ¾
Boston&Chelsea pref. 50	110,000	semi-an.	Oct. '82 3
Broadway (Brooklyn)100	250,000	q'arterly	Oct. '82 6
B'way&7th Av,(N.Y.)100	2,100,000	q'arterly	Oct, '82 2
B'klyn&Hunter's Pt.100	400,000	semi-an.	Oct. '82 6
Brooklyn City.....100	2,000,000	q'arterly	Nov. '82 3½
Bushwick (Brooklyn)100	309,000	semi-an.	Oct. '82 6
Cambridge.....100	908,000	q'arterly	Oct. '82 4½
Cen.Park,N.& E.Riv.100	1,800,000	q'rtely.	Oct. '82 6
Christoph'r&TenthSt100	650,000	semi-an.	Aug.'82 2½
Citizens' (Phil.)..... 50	192,500	q'rterly.	Jan. '82 2½
Citizens' (Pbg.)..... 50	200,000	annual..	....'80 14½
Coney Island&Bklyn100	500,000	semi-an.	Oct. '80 5
Continental (Phil.).. 50	580,000	semi-an.	Jan. '83 6
D.Dock,E.B'way&Bat100	1,200,000	q'arterly	Aug.'82 4
Eighth Av. (N. Y.)....100	1,000,000	q'rterly.	Oct. '82 3
42d St. & G. St. Ferry100	747,000	semi-an.	May '82 6
Frankf.&Southw (Ph) 50	600,000	q'rterly.	Oct. '82 6
Germantown, (Ph.).. 50	1,540,902	q'rterly.	Jan. '83 2½
Girard College (Ph.) . 50	500,000	semi-an.	July '71 3
Grand St. & Newton.100	170,091	semi-an.	July '81 2½
Green& Coates St.(Ph) 50	708,650	q'rterly.	Jan. '83 3
Heston,Mantau&F'm 50	299,381	semi-an.	Jan. '75 4
Highland.....100	600,000	semi-an.	July '82 4
Lomb.&SouthSts(Ph) 25	195,000	semi-an.	Oct. '75 4
Lynn and Boston.....100	200,000	semi-an.	Nov.'82 4
Malden and Melrose.100	165,000	....	.....
Metropolitan (Bost.). 50	1,500,000	semi-an.	Jan. '83 4
Middlesex (Boston)..100	650,000	semi-an.	Nov. '82 3½
N.Y.,Bay Ridge&Jam100	150,000	..... .	Oct. '78 7
Ninth Av. (N. Y.)....100	797,320	....	.....
Orange &Newark.....100	282,555	..... .	.....
People's (Phila.) pref. 25	115,250	..... .	July '82 2
Philadelphia City.... 50	475,000	semi-an.	July '82 4
Phila. and Darby.... 20	200,000	semi-an.	July '81 3½
Phila.&Grey's Ferry. 50	308,000	semi-an.	Jan. '82 6
Pbg,Alleg.&Manches. 50	300,000	q'rterly.	Oct. '81 3
Ridge Avenue (Ph.).. 50	420,000	semi-an.	Oct. '81 11
Second Avenue (N.Y.)100	1,199,500	semi-an.	July '82 4
Second&ThirdSt.(Ph) 50	771,076	q'rterly.	Jan. '83 4
17th &19th sts (Ph.).. 50	250,000	semi-an.	July '81 3
Sixth Avenue (N. Y.)100	750,000	semi-an.	May '82 5
Somerville (Boston).100	113,000	semi-an.	Nov. '82 3
South Boston..... 50	600,000	semi-an.	Jan. '83 4
Third Avenue, N. Y..100	2,000,000	q'rterly.	Aug '82 5
13th and 15th sts.,Ph 50	334,529	q'rterly.	Jan. '83 4
23d street, N. Y.....100	600,000	semi-an.	Aug.'82 4
Union, Boston.....100	374,300	semi-an.	Jan. '82 4
Union, Phila..... 50	1,005,000	semi-an.	Jan. '82 7
West Philadelphia... 50	750,000	semi-an.	July '77 10
CANALS.			
Chesapeake and Dela 50	2,078,038	semi-an.	June'75 2
Delaware Division... 50	1,633,350	semi-an.	Aug. '82 $1
Delawa. and Hudson100	20,000,000	q'rterly.	Dec. '82 1¾
Delaware & Raritan*.100	5,847,400	q'rterly.	Jan. '83 2½
Lehigh Coal and Nav 50	11,204,250	semi-an.	Dec. '82 2
Monongahela Nav... 50	1,004,500	semi-an.	Jan. '83$3
Morris, consolidated.100	1,025,000	semi-an.	Aug. '82 2
" preferred....100	1,175,000	semi-an.	Aug.'82 5
Pennsylvania..... 50	4,501,200	.....	.....
Schuyl. Nav., com.*. 50	859,100	annual..	Oct.'82 50c.
" " pref... 50	3,200,000	annual..	Oct. '82 $1
MISCELLANEOUS.			
Adams Express.....100	12,000,000	q'rterly.	Dec. '82 2
American Express... 50	18,000,000	semi-an.	Jan '83 3
Amoskeag Manuf.Co.100	3,000,000	semi-an.	June'81 5
Calumet&HeclaMin'g 25	100,000 S.	q'rterly.	Feb. '83 $5
Central Mining Co...100	.....	annual.	Feb '83 $3
Consolidation Coal..100	10,250,000	semi-an.	Jan. '82 2
George's Creek C.&I.100	.....	semi-an.	Jan. '83 3
Maryland Coal.....100	4,400,000	semi-an.	Feb. '76 1½
Mariposa L. &Mining100	10,000,000	..... .	.....
" pref100	5,000,000	..... .	.....
Missouri Val.LandCo100	200,000	semi-an.	Jan. '83 $6
National Tube Works100	2,000,000	q'rterly.	Jan. '83 2
Pac. Mail Steamship.100	20,000,000	q'rterly.	Sept.'69 3
Pennsylvania Coal... 50	5,000,000	q'rterly.	Nov. '82 3
Pullman Palace Car..100	10,032,800	q'rterly.	Feb. '83 2
Quicksilver, com....100	5,708,760	..... .	May '82 0.4
" pref.....100	4,291,300	..... .	May '82 6
Quincy Mining Co... 25	40,000 shs	semi-an.	Feb. '83 $6
Quincy R. R. Bridge.100	1,750,000	semi-an.	Jan. '83 5
SiouxC.&I.F.L.&L.Co100	500,000	semi-an.	Dec. '82 3½
Spring Mt. Coal.....100	1,500,000	semi-an.	Dec. '82 3½
Topeka Equip'nt Co.100	255,500	semi-an.	Oct. '82 5
United States Ex....100	7,000,000	q'rterly	Nov. '81 1
Wells-Fargo & Co. Ex100	6,250,000	semi-an.	Jan. '83 4
Western Union Tel..100	80,000,000	q'rterly.	Jan. '83 1½

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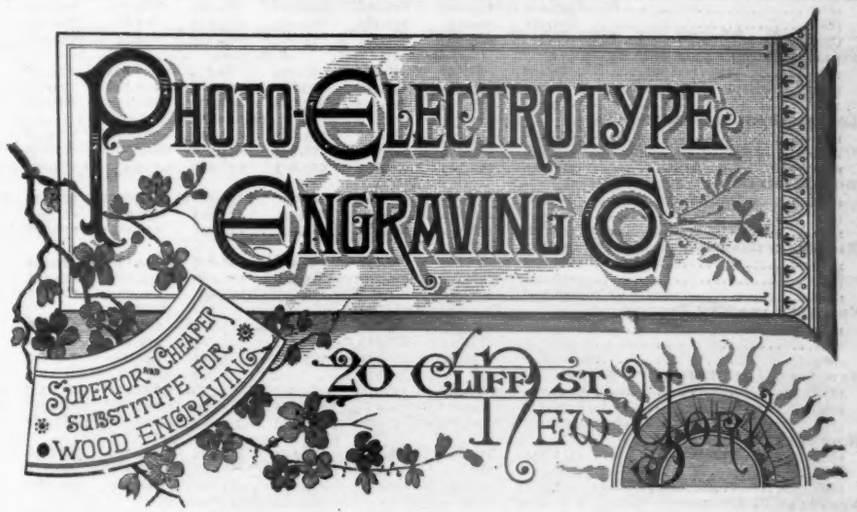

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RAILROAD EARNINGS.—MONTHLY.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Burl., Cedar Rap. & Northern:													
1880	184,316	165,170	188,325	141,652	149,504	153,378	143,432	160,160	179,804	204,991	189,330	193,419	2,053,484
1881	167,750	124,510	148,551	184,680	165,630	205,912	174,351	209,112	221,801	221,748	202,180	232,812	2,259,037
1882	252,823	225,631	224,107	178,304	199,278	211,257	198,476	224,921	261,439	300,155	278,439	.....	.....
Central Pacific:													
1880	1,300,615	1,070,487	1,373,438	1,356,716	1,778,488	1,724,990	1,840,067	1,973,438	1,994,997	1,120,229	2,199,466	1,905,221	20,508,113
1881	1,602,907	1,454,218	1,709,658	1,872,370	2,091,411	2,159,382	1,899,346	2,088,519	2,185,303	2,507,857	2,297,971	2,225,179	24,094,101
1882	1,839,469	1,720,675	1,969,737	2,054,687	2,342,298	2,229,105	2,020 000	2,277,000	2,474,000	2,409 000	2,242,000	.....	.....
Chesapeake and Ohio:													
1880	202,335	198,681	222,762	221,559	199,443	214,352	238,236	259,110	247,303	211,820	240,795	218,009	2,674,308
1881	162,540	184,389	228,479	227,343	252,235	241,135	225,096	262,858	247,144	236,306	230,022	203,562	2,702,762
1882	210,455	209,708	208,981	267,454	255,939	260,753	306,831	371,175	332,219	347,882	287,850	.....	.....
Chicago and Alton:													
1880	534,054	497 013	626,473	542,961	616,128	617,524	708,906	761,120	767,349	785,199	696,776	574,695	7,718,198
1881	487,890	461,641	529,915	558,190	548,556	635,860	676,205	769,751	774,790	771,844	672,380	635,307	7,553,988
1882	579,447	530,480	584,483	561,787	553,412	613,886	671,537	800,624	881,109	812,032	748,151	.....	.....
Chicago and Northwestern:													
1880	1,154,632	1,131,683	1,361,725	1,294,573	1,875,608	1,671,177	1,699,686	1,767,938	2,020,245	2,105,217	1,855,622	1,477,902	19,416,007
1881	1,240,664	963,204	1,178,795	1,474,612	1,879,006	2,306,440	1,983,032	2,315,164	2,292,676	2,341,098	2,019,038	1,855,477	21,849,209
1882	1,644,935	1,474,176	1,672,931	1,668,741	2,110,947	2,022,700	2,025,736	2,099,755	2,497,053	2,532,100	2,069,287	.....	.....
Chicago, Burlington and Quincy:													
1880	1,432,740	1,411,870	1,732,518	1,489,894	1,909,627	1,682,956	1,773,643	1,834,321	1,862,285	1,934,762	1,837,860	1,552,018	20,454,494
1881	1,307,948	1,034,821	1,418.149	1,574,371	1,679,455	2,083,803	1,888,358	2,173,945	2,262,981	2,031,001	1,816,133	1,905,490	21,324,150
1882	1.658,834	1,457,300	1,566,217	1,530,838	1,505,261	1,437,164	1,625,006	2,086,858	2,186,400	2,270,444	.....	.....	.....
Chicago, Milwaukee and St. Paul:													
1880	764,298	738,749	900,675	871,041	1,134,745	1,037,958	1,026,708	991,297	1,257,677	1,493,620	1,472,037	1 397,308	13,086,119
1881	990,847	682,717	916.989	1,259,946	1,538,491	1,729,811	1,568,706	1,678,361	1,644,676	1,591,052	1 560.597	1,855,000	17,025,462
1882	1,435,000	1,377,000	1,561,000	1,518,000	1,629,000	1,620,000	1,465,000	1,545,000	1,950,000	2,251,000	2,072,000	.....	.....
Chicago, St. Paul, Minneapolis and Omaha:													
1880	193,827	173,078	259,783	259,208	232,146	218,093	236,995	251,013	300,833	342,052	342,894	312,173	3,122,097
1881	257,786	158,594	251,648	261,211	350,124	404,562	383,202	385,586	373,370	379,029	392,921	391,950	3,981,296
1882	307,498	315,100	405,779	356,558	406,420	363,109	331,480	394,555	482,997	546,671	517,595	.....	.....
Cincinnati, Indianapolis, St. Louis and Chicago:													
1880	155,697	172,541	198,220	168,199	186.995	200,332	204,138	233,478	343,627	239,881	209,014	198,254	2,412,185
1881	182,523	171,511	191,005	183,710	191,056	192,299	177,161	229,858	228,653	221,320	211,014	192,623	2,296,916
1882	200,042	186,879	208,066	204,269	199,110	195,948	209,564	.....	259,379	.....	219,732	.....	.....
Denver and Rio Grande:													
1880	124,759	126,922	160,883	164,882	193,925	295,455	373,132	400,133	406,583	473,318	408,562	349,196	3,478,007
1881	307,476	317,681	398,493	433,111	514,767	584,230	548,284	606,193	589,287	638,432	547,055	643,417	6,206,812
1882	491,914	412,987	535,055	559,917	614,298	537,462	495,797	574,040	595,306	630,598	512,965	.....	.....
Hannibal and St. Joseph:													
1880	176,079	166,965	216,061	206,735	191,317	179,396	224,312	238,081	233,448	242,214	207,147	279,635	2,561,366
1881	154,401	122,874	176,356	190,812	172,950	190,740	201,893	210,240	215,103	231,913	195,607	180,376	2,230,961
1882	138,284	154,717	168,798	148,913	154,917	155,030	184,347	258,628	239,196	238,442	249 252	.....	.....
Illinois Central:													
1880	595,212	613,806	613,008	535,732	665,120	681,736	724,095	732,755	806,836	880,211	783,120	673 182	8,304,812
1881	631,281	524,499	557,789	662,493	673,259	803,887	720,004	868,407	828,847	815,238	737 218	763,475	8,586,397
1882	728,173	689,387	695,371	674,603	674,749	663,746	752,251	813,600	828,238	865,325	752,144	.....	.....
Indiana, Bloomington and Western:													
1880	80,498	89,690	116,185	90,374	85,733	106,954	103,438	116,732	110,622	121,343	96,621	104,619	1,233,079
1881	90,283	83,261	192,085	203,677	200,064	199,846	190,125	272,114	247,332	225,678	200,450	156,697	.....
1882	195,824	175,755	206,235	205,934	182,554	186,133	206,072	278,814	273,100	269,046	256,998	.....	.....
Louisville and Nashville:													
1880	674,455	575,035	612,593	563,883	655,014	976,229	772,538	827,089	931,911	1,000,327	953,087	949,185	9,491,346
1881	812,118	805,124	947,959	855,704	828,726	1,227,885	817,135	876,192	951,566	1,002,950	1,065.223	1,153,779	11,344,361
1882	964,527	960,315	1,068,834	953,603	958,130	1,215,490	1,063,765	1,043,912	1,107,985	1,216,215	1,192.390	.....	.....
Mobile and Ohio:													
1880	250,116	204,095	168,302	140,091	129,248	121,855	131,621	140,593	184,247	264,714	251,368	287,372	2,273,622
1881	224,347	216,768	230,916	163,551	145,803	136,517	135,549	160,789	210,262	256,924	262,986	258,212	2,403,224
1882	150,676	158,590	148,166	141,957	134,378	135,184	136,398	140,443	160,031	265,201	295,110	307,643	.....
Nashville, Chattanooga and St. Louis:													
1880	205,634	191,154	169.457	155,466	158,839	144,130	151,594	169,326	167,473	178,266	182,087	175,966	2,049,484
1881	178,143	190,866	207,710	183,525	104,430	154,549	150,430	168 317	179,979	172,121	152,059	173,127	2,075,256
1882	156,994	159,961	161,005	154,155	135,556	119,074	160,991	168,304	168,999	180,319	181,336	.....	.....
New York and New England:													
1880	164,232	149,907	183,845	179,689	183,701	219,891	205,056	249,885	235,642	215,491	210,856	198 108	2,396,302
1881	189,749	173,614	212,019	216,913	217,185	231,518	246,821	280,524	299,573	261,206	240,764	237,729	2,809,255
1882	213,840	217,261	265,222	263,544	283,244	290,060	300,920	353,726	338,490	310,145	276,183	.....	.....
New York, Lake Erie and Western:													
1879	1,147,173	1,207,391	1,356,780	1,372,755	1,350,574	1,230,419	1,273,533	1,450,223	1,492,497	1,713,697	1,515,835	1,398,224	16,509,127
1880	1,296,381	1,252,218	1,644,958	1,643,151	1,592,544	1,661,812	1,580,976	1,606,874	1,786,417	1,899,010	1,799,338	1,726,788	19,149,361
1881	1,443.437	1,425,765	1,847,261	1,709,057	1,776,891	1,794,982	1,787,081	1,772,895	1,734,200	1,814,866	.....	.....	.....
Northern Central:													
1880	334,494	330,860	415,325	386,130	329,788	419,193	450,298	453,923	464,093	512,918	459,054	494,310	5,050,387
1881	386,157	382,657	452,906	487,273	465,588	487,287	440,811	498,008	429,565	449,664	487,160	476,622	5,443,697
1882	407,368	413,551	430,194	435,129	482,607	482,752	509,083	667,488	592,435	550,225	526,685	.....	.....
Northern Pacific:													
1880	81,300	77,259	119,357	185,700	217,613	253,105	241,277	223,500	330,300	358,456	300,822	220,993	2,629,710
1881	116,508	78,803	162,084	216,210	312,705	412,024	393,260	434,085	534,363	583,555	475,610	434,331	4,044,576
1882	239,800	269,000	384,000	438,000	568,332	631,342	679,240	727,377	789,700	834,460	761,324	.....	.....
Philadelphia and Erie:													
1880	224,307	245,372	327,678	334,947	311,470	331,024	308,699	347,532	322,737	367,082	324,966	281,919	3,727,733
1881	224,303	225,501	285,573	293,323	343,792	350,585	291,669	303,849	276,522	292,392	284,078	282,772	3,454,309
1882	252,727	246,246	265,311	277,851	341,415	347,614	377,206	420,329	386,455	397,164	369,583	.....	.....
St. Louis and San Francisco:													
1880	198,091	195,948	193,146	176,164	167,664	173,607	213,207	259,995	280,873	328,194	290,329	226,063	2,698,371
1881	212,435	178,234	262,050	265,298	283,399	260,254	252,333	286,373	279,064	308,569	284,320	287,914	3,160,245
1882	256,784	244,654	274,959	242,806	253,419	240,177	318,613	381,637	336,805	360,900	331,490	.....	.....
St. Louis, Alton and Terre Haute:													
1880	153,139	163,737	168,994	155,462	147,928	150,207	191,077	216,759	204,295	221,863	188,773	184,503	2,146,741
1881	175,725	166,012	201,137	197,447	172,177	165,896	165,393	189,180	196,368	204,238	169,795	153,852	2,112,801
1882	168,087	149,619	178,145	157,450	162,842	142,742	192,017	236,137	217,659	229,962	206,040	.....	.....
St. Louis, Iron Mountain and Southern:													
1880	555,983	490,195	451,560	408,241	349,053	363,454	432,655	565,869	671,219	688,365	632,052	656,951	6,265,597
1881	570,957	560,791	704,002	548,300	479,075	474,302	533,512	644,386	708,325	719,239	687,271	709 498	7,319,744
1882	516,370	501,127	585,008	581,977	519,120	529,700	515,519	675,981	724,160	809,394	843,973	753,515	8,704,772
St. Paul, Minneapolis and Manitoba:													
1880	180,239	137,645	261,798	333,014	281,899	243,407	272,089	232,579	274,188	345,057	300,675	297,641	3,160,231
1881	254,187	159,482	320,962	425,685	382,642	405,322	387,488	414,954	485,736	605,708	508,530	528,262	4,878,960
1882	395,461	418 358	531,004	570,890	858,902	856,417	853,296	801,759	832,776	979,057	913,335	.....	.....
Texas and Pacific:													
1880	245,785	219.165	215,070	174,177	141,083	153,066	195,711	226,073	266,570	303,666	312,184	301,858	2,754,408
1881	281,176	260,781	319,928	295,066	281,782	285,405	328,063	381,331	345,790	419,203	369,521	381,218	3,921,569
1882	310,785	255,644	332,911	359,543	409,228	384,713	367,215	439,918	470,613	541,901	619,655	.....	.....
Union Pacific Railway:													
1880	1,433.636	1,393.992	1,730,509	1,937,220	2,027,269	1,928,528	1,934,215	1,913.035	2,270,179	2,707,860	2,251,148	1,869,335	23,448,445
1881	1,339.799	1,374,740	1,674,860	1,766,894	2,319,238	2,884,774	2 528,826	2,638,659	2,844,357	3,169,530	2,723,608	2,267,004	27,451,831
1882	1,961,088	1,759,863	2,226,832	2,462,004	2,491,590	2,508,453	2,301,000	2,762,107	2,949,112	3,158,337	2,821,070	.....	.....
Wabash, St. Louis and Pacific:													
1880	776,790	759,451	978,629	892,024	948,773	953,468	1,966,742	1,189,478	1,178,950	1,501,203	1,131,787	1,050,816	12,428,119
1881	811,617	818,922	1,121,592	1,023,482	1,144,660	1,308,093	1,131,752	1,542,838	1,400,027	1,397,781	1,343,556	1,328,278	14,461,570
1882	1,220,965	1,134,768	1,315,776	1,378,194	1,204,864	1,149,692	1,418,837	1,772,544	1,682,382	1,595,680	1,525,715	.....	.....

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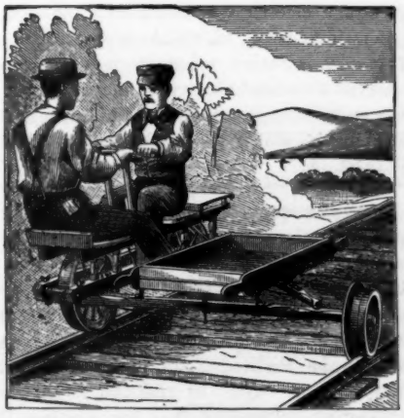

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A Tunnel Resents Being a Tunnel.

In Castle District, at a point about five miles north of this city, is a tunnel that may be called an ex-tunnel. It is a tunnel that remonstrates against being a tunnel. It was run about four years ago into the side of a steep hill, and was originally about forty feet in length. When in about fifteen feet the tunnel cut into a soft, swelling clay, very difficult to manage. After timbering and striving against the queer, spongy material until it had been penetrated some twenty-five feet, the miners gave up the fight, as they found it a losing game. Being left to its own devices, the tunnel proceeded to repair damages. It very plainly showed that it resented the whole business, as its first move was to push out all the timbers and dump them down the hill. It did not stop at that, but projected from the mouth of the tunnel a pith or stopper of clay the full size of the excavation. This came out horizontally some eight feet, as though to look about and see what had become of the miners, when it broke off and rolled down the slope. In this way it has been going on until there are some hundreds of tons of clay at the foot of the hill. At first it required only about a week for a plug to come out and break off, then a month, and so on, till now the masses are ejected but three or four times per year, yet the motion continues, and to-day the tunnel has the better of the fight by about four feet.—*Virginia (Nev.) Enterprise.*

The First Private Railway in India.

The first railway constructed in India by private enterprise has recently been opened. The length of the line in all is six miles—viz., four miles from the Baidyanath Junction on the E. I.R. to Baidyanath (Shrine) Station, Deoghur Railway, from where there is a branch to Rohini, two miles. The line crosses a rapid hill torrent, called the Derwah River, which is bridged by a girder bridge of five piers, being a length of 325 feet; and another girder bridge, sixty-five feet long, crosses the Jumnajori, a smaller river. During the wet and rainy months these rivers overflow and flood the surrounding country, and render communication almost impossible with the town of Deoghur, where the shrine is situated, but this line will effectually do away with this difficulty. The object of this line is principally to convey the enormous numbers of pilgrims from the Baidyanath Junction, E.I.R., to the shrine of Baidyanath, Deoghur, who flock to the temple from all parts of India all round the year, and at certain Hindoo festival seasons the proportion ordinarily is quadrupled. Besides this great pilgrim traffic, which, from the E.I.R. statistics, shows over 500,000 passengers annually, the same statistics represent an outward and inward goods traffic at the Baidyanath Junction from 6,000 to 7,000 tons yearly. Between the two it is reckoned that the line cannot fail to show good results. The Deoghur Railway has been constructed and equipped at a cheapness of cost never yet rivalled in the country, namely at under £4,000 per mile, and this including a large girder bridge. The line has been constructed entirely by Messrs. Burn and Co., without any guarantee, subsidy, or concession whatever from Government, further than the grant of the necessary land.—*Herapath's Railway Journal.*

The Social Glasses.

There sat two glasses, filled to the brim,
On a rich man's table, rim to rim;
One was ruddy and red as blood,
And one as clear as the crystal flood.
Said the glass of wine to the paler brother:
"Let us tell the tales of the past to each other,
I can tell of banquet and revel and mirth,
And the proudest and grandest souls on earth
Fell under my touch, as though struck by blight,
Where I was a king, for I ruled in might.
From the heads of kings I have torn the crown,
From the heights of fame I have hurled men down;
I have blasted many an honored name;
I have taken virtue and given shame;
I have tempted the youth with a sip, a taste,
That has made his future a barren waste.
Far greater than a king am I,
Or than any army beneath the sky;
I have made the arm of the driver fail,
And sent the train from the iron rail.
I have made good ships go down at sea
And the shrieks of the lost were sweet to me,
For they said: 'Behold, how great you be,
Fame, strength, wealth, genius, before you fall,
For your might and power are over all.
'Ho! ho! pale brother," laughed the wine.
"Can you boast of deeds as great as mine?"
Said the water glass, "I cannot boast
Of a king dethroned or a murdered host,
But I can tell of a heart, once sad,
By my crystal drops made light and glad—
Of thirsts I've quenched, of brows I've laved,
Of hands I have cooled and souls I have saved;
I have leaped through the valley, dashed down the mountain;
Flowed to the river and played in the fountain;
Slept in the sunshine and dropped from the sky,
And everywhere gladdened the landscape and eye;
I have eased the hot forehead of fever and pain,
I have made the parched meadows grow fertile with grain;
I can tell of the powerful wheel of the mill
That ground out flour and turned at my will;
I can tell of manhood debased by you
That I lifted up and crowned anew;
I cheer, I help, I strengthen and aid;
I gladden the heart of man and maid;
I set the chained wine-captive free,
And all are better for knowing me."
These are the tales they told each other—
The glass of wine and its paler brother—
As they sat together, filled to the brim,
On the rich man's table rim to rim.

Marshall Car and Foundry Co.

This company is located in Marshall, Texas, was incorporated in 1880, and is the successor of the Marshall Manufacturing Company, which was established in 1875. The foundry manufactures car wheels and all kinds of railroad castings, which are produced from Texas iron, this metal being superior to most of the iron found in the Southwest, for that purpose. The company also manufacture freight cars, their work in both cars and car wheels being almost exclusively for the Texas and Pacific Railroad and the International and Great Northern Railroad. The foundry and shops were started seven years ago, with a capital of only $10,000, and the enterprise has prospered so rapidly that it now has an invested capital of $140,000. They will soon erect a large blast furnace at a cost of $50,000, and turn out their own pig iron from native ores. The company manufacture an average of 800 car wheels per month, and employ in their busy seasons upward of 360 workmen in their foundry, machinery and car departments. The officers of the company are Messrs. Charles Cobb, president, 392 Clinton street, Brooklyn, N. Y., and John F. Dickson, vice-president and general manager, Marshall, Texas.

The first experiments in using locomotives for hauling canal boats, the rails being placed on the banks of the canal, were made in France in 1879. A company was then started for the purpose, and the results obtained were satisfactory. The company originally tried this system on the canals from Neulosse and Aire to La Bassa, which have a length of sixty kilometers. The locomotive, which weighs five tons, can haul five or six boats, or a floating weight of 1,000 tons. The speed is four kilometers an hour. During the last experiments the results are said to have been so satisfactory that the method has been introduced on all the canals of the Department de Nord from Lille and Dunkirk to Flanders.

A London journalist, writing upon the subject of street railways, says: "It would be idle to object to tramways in the broad street and among the infrequent shops which are found in suburban London. There the numbers of those who find the tramcars useful are out of all proportion to the numbers of these who find them a nuisance, and it is only reasonable that the interests of the majority should decide the question. But when we get nearer London we find that the proportion between the two classes is altogether changed. The passengers in the tramcars are few in comparison with those to whom tramways and all that belongs to tramways are a simple abomination."

Our Cleveland contemporary, *The Trade Review and Western Machinist*, says: "How long will it be before the expensive system of horse-locomotion will be dispensed with on Cleveland street car lines, and steam, cable, spiral spring or electricity substituted? The cable system in Chicago, which has been the object of closest scrutiny since its adoption, has achieved a decided victory, in the view of such high engineering authority as the *American Engineer*, for its ability to cope with even a heavy fall of snow."

The estimated cost of the proposed ship-canal from Bordeaux, on the Bay of Biscay, to Narbonne, on the gulf of Lyons—a distance of 240 miles—is nearly $300,000,000. It is proposed to tow vessels by locomotives running along the banks, and the voyage from the Atlantic to the Mediterranean is expected to be made in three days. In addition to this vast engineering scheme is that for uniting the Loire and Rhone by canal, with, of course, a similar purpose.

An incautious youth startled his friends by announcing that he had met at a ball "a young lady who had vaccinated him on the spot," his real meaning being "fascinated."

"Railway Masonry and Bridge Foundations," by James Hasley, master mason of the Little Rock and Fort Smith Railway, is a manual of more than sixty pages, neatly printed, carefully illustrated, and bound in cloth. Its contents record the experience of a practical mason occupying a responsible position, and who knows whereof he speaks. Mr. Halsey writes good, simple English, and is not afraid of the first personal pronoun, although manifestly a modest and sensible man, for he does not pretend to instruct in matters upon which he is not adequately, that is experimentally, informed. The value of this little book lies in its immediate adaptability to service in railroad masonry. We recommend it without hesitation. Among other matters treated are the various kinds of stone and styles of masonry employed on railroads; the various styles of dressing, pointing joints, foundations, manner of construction, with a section on abutments, box and arch culverts, hydraulic foundations, concrete work, and protection against scour. "Railway Masonry" is published by The Railway Age Publishing Company, Chicago, the courtesy of whom in sending us a copy, is hereby acknowledged.

The smoker is not ubiquitous. He can find no place for the enjoyment of the weed in the majority of the street-cars of this great metropolis. As regards the Elevated Railroad, the man of business who likes an after-breakfast cigar must perforce postpone this pleasure until he leaves his seat in one of its cars. He has an advantage, however, over the traveler in the surface-road cars running beneath him, who is, as a rule, not only cut off from his smoke but has to ride with cold feet. 'Tis but fair to add that the cars of the Second avenue surface railroad are comfortably heated, and that some on the Third avenue are provided with a smokers' compartment.

It is related on good authority that during the recent war with the Transvaal Boers, the captain of an English iron-clad received orders from home to "lie off the town of Potchefstroom, but not to bombard it"—the said town lying several hundred miles inland, among the hills of the Transvaal.

Advertise in the Railroad Journal.

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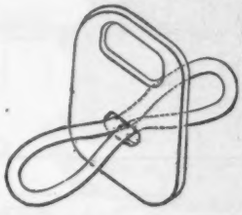
SWEETLAND SAFETY LINK GUIDE.

Patented August 29, 1882.



The guide is manipuated by means of the handle at the upper part, extending far enough above the draw-head to prevent danger of the hand being crushed while coupling cars, and can be used in any place where an ordinary link is used.

The guide plate is made of one-quarter inch iron, ten inch by twelve inch—including the handle—and weighs less than six ponnds.

For further particulars address,

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WESTERN ELECTRIC CO.

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RAILROAD, MINING, AND MILL SUPPLIES.

No. 21 Park Place,

NEW YORK.

Electric Car-Brake.

THE Electric Car-Brake invented by P. V. CONOVER, of Uvalde, Texas, has on the car wheel axle a small cog-wheel near the car-wheel, and on the same axle near the center is a friction-wheel. Both these wheels revolve with the car axle. Fastened to the bottom of the car and reaching down to the friction-wheel is a hollow stand, in which is a vertical shaft, at the lower end of which is a friction-wheel, and on the upper end a bevel cog-wheel. This

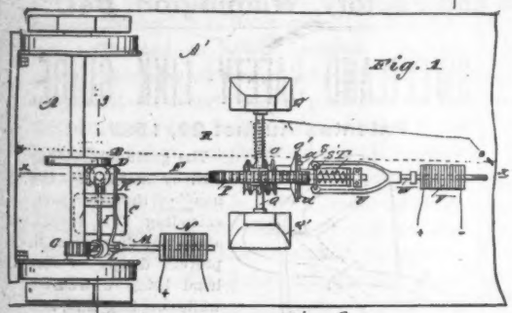


Fig. 1.

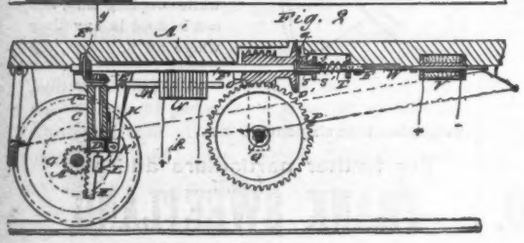
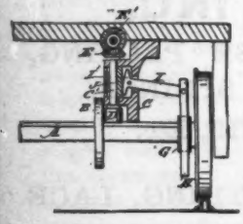


Fig. 2.

shaft is so arranged that its lower end has about a half-inch play. Fulcrumed in the hollow stand in which the shaft is set is a lever, T-shaped at the short end, while the long end is attached to a small bar with cogs on one side of it. This bar plays near the cog-wheel on the car axle. There is another lever fulcrumed to the hollow stand, the short end of which is attached to the bar with the cogs on it. The long end of this lever is attached to the armature of an electro magnet. Now, when the poles of the battery are closed, the armature is drawn to the magnet, drawing the end of the lever with it and moving the other end out, and thus forcing the bar with the cogs on the cog-wheel and putting the long end of the T-shaped lever up or down, as the case may be, and forcing the end of the vertical shaft with the friction-wheel on it against the friction-wheel on the car-shaft, thus giving



motion to the vertical shaft. Now, there is a horizontal shaft, on one end of which is a bevel cog-wheel that works in the one on the vertical shaft, and near the other end is a screw or worm-wheel which works into a cog-wheel that is on the shaft to which the chains are fastened that work the brake-levers on the end of the horizontal shaft. Near the screw-wheel is a collar which slides loosely on a key. This collar has one or more arms, and on the end of the screw-wheel next the collar is one or more pins or pawls that catch on the arms of the sliding collar, the screw-wheel being loose on the shaft and the pins catching on the arms of the collar, causing the screw to rotate with the shaft, and thus rotating the wheel attached to the shaft to which the chains are fastened that work the brake lever. Now, when the vertical shaft rotates it turns the shaft to which the screw is attached, thus rotating the screw and with it the chains, shaft, wheel, and thus closing the brake. Now there is a forked rod, the forks of which being a little further apart than the diameter of the collar, and each fork having a hook and so arranged as to catch on the rim of the other collar, the other end of the forked rod enters a helix. When the brakes are on, and it is necessary to loosen them, close the poles of the battery connected with this helix This draws the forked rod back, and with it the sliding collar, leaving the screw-wheel loose on the shaft, while the tension of the brakes unwinds them.

This brake is operated by electricity. The battery is on the engine, and the power required is very small. The brake can be so arranged that if a train break in two the brakes will go on every car on the train. It can be worked on a single car with a lever, and is easily managed. The brake can be worked from a single car by means of a lever as well as from the engine, and can be worked by a child as easily as by a man.

Reid's Lightning Brace.

THIS useful invention, which is manufactured by A. H. REID, 1631, 1633 and 1635 Barker street, Philadelphia, Penn., is specially designed for light boring and screw driving. It is very quick in its work, and as the power is applied on the top it may be used with great force. It may be used either automatically, running the bit both back and forward, or to turn the bit one way only, as is necessary to drive a screw or bore a hole with an auger bit. This is done by means of the divided head, which acts as a fast and loose pully, there being no ratchet about it to get out of order. It is made strong and durable. The metal part is finely polished and nickel-plated. The trimmings are of lignumvitæ and rosewood.

A patent has been allowed on the Lightning Brace, which gives promise of extensive usefulness. The manufacturer sends full particulars in answer to inquiries.

Bond's Car Brake.

George F. Bond, Troy, New York, has invented a car-brake, the object of which is to provide that it be applied easily at any time from any part of the train, and which need not be operated by manual labor.

The invention consists in a car-brake formed of brake-shoes attached to the ends of a toggle-lever connected by means of an elbow lever with a longitudinally-movable rod held on the bottom of the car and provided with a bumper-head at one end. The opposite car is provided with a vertically adjustable bumper-head, and when the same is lowered and the cars are caused to bump together by checking the speed of the engine, the rod is moved longitudinally, the joint of the toggle-lever is pressed downward, and the brake-shoes are pressed against the wheels. The machinery, by means of which the objects sought are effected, is secured by letter-patent, granted December 5, 1882. If a train runs off the track or an axle breaks, or other accident happen, the brakes are applied automatically and immediately.

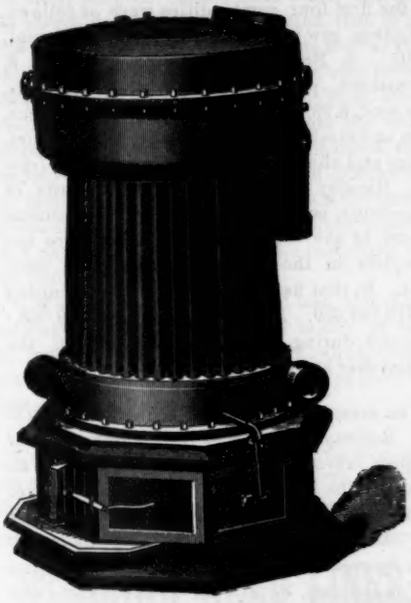
Texas Pacific Railroad Litigation.

IN 1856 a project was formed for building a Southern Pacific Railroad to run across Texas to the Pacific Coast. The first link in the trans-continental chain was from Shreveport, La., to Marshall, Tex. By the time this was finished the enterprise broke down pecuniarily, and the road was several times sold out by a sheriff. After the war, in the year 1866, the enterprise was revived, and a loan of $150,000 was made to the road by a Louisville syndicate. The enterprise failed in 1868, and the road was sold and bought in by the Louisville syndicate, in order to secure their debt—they assuming to pay other prior mortgages and debts to the amount of about $500,000. They took charge of the road and put about $8,000,000 more into it, obtained the passage of a number of laws by the National Congress and the Texas Legislature in aid of the road, and at last succeeded in 1877 in selling the property to the Texas Pacific Railroad Company for $3,000,000 in land grant bonds. Gould and Vanderbilt afterward put about $28,000,000 more into the road, and it is now completed and forms a great trunk line from ocean to ocean. The stockholders in the old company, who sold out in 1868, waited till 1873 and brought suit in the Louisville Chancery Court against the Louisville syndicate to recover the road and all the profits the syndicate had made upon it. The case has been fought vigorously on both sides. It was argued and submitted in November, 1882, and on the 12th inst. Chancellor Edwards returned a verdict in favor of the defendants. The Chancellor held that there was no fraud on the part of the defendants in purchasing the road in 1868; that they were compelled to purchase it to save their debt. He also held that the suit was defective, because the trustees of the old corporation, who properly represent it, were not parties to the suit; also that the delay of the old stockholders from 1868 to 1873 before suing was such negligence as to prevent them from afterward asking the aid of the Chancellor to recover back from defendants the road which the latter had made valuable during their delay by the free use of money, time and energy.

A COKE car has been built at Harrisburg, Penn., for Robert Hare Powell. It is 35 feet in length and 11 ft. 4 in. in height, and has a capacity of 24 tons of coke. There are gates in the sides and traps in the floor, which admit of the cargo discharging itself with little difficulty.

"To things of praise a seller's praise belongs," and what more natural than for the stationer to praise the most popular steel pens he sells—Esterbrook's.

THE SALMON CAR HEATER



"36 per cent of coal saved and the car kept noticeably warmer!"

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It Insures Safety from Fire in case of Accident, Economy in Fuel and RAPID CIRCULATION. It heats quickly, is SELF-REGULATING, and can be used for either STEAM OR HOT WATER.

The Water Tubes do not come in contact with the Coals, but occupy the Smoke Flue in such a manner as to absorb the greatest amount of heat from Coal in a **low State of combustion** without danger of chilling the fire.

At the last "Mechanics' Fair" it received the Silver Medal, being the highest award to heaters of any kind.

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The Salmon Heater Co.

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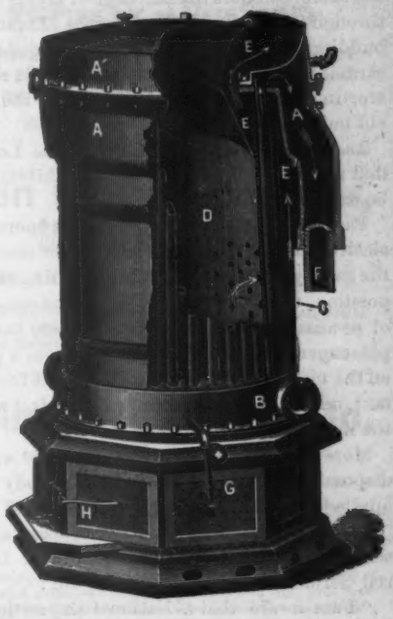

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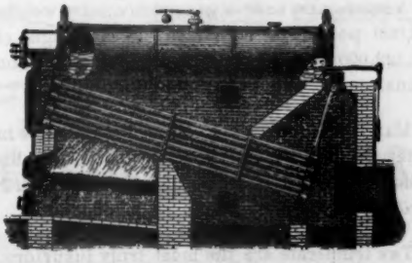

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Address, Munn & Co., publishers of Scientific American, 261 Broadway, New York.
Handbook about patents mailed free.

Railway Exposition Items.

THE Chicago Common Council has granted the commissioners the privilege of laying tracks through the Lake Park into the Exposition building for the convenience of exhibits of cars, locomotives and heavy machinery, also of erecting an annex at the south end of the present building.

Assurances have been received from London that an interesting collection of exhibits may be expected from England.

Parties are arranging to build and operate an electric passenger railway around the inside of the gallery of the main building during the exposition, the length of which will be one-third of a mile, and a model gravity road, to carry passengers also, will be operated from a point on the main floor to a point a hundred feet distant, on the west wall, thirty or forty feet above the floor.

More than half the amount of space at the disposal of the commissioners has already been applied for.

The following letter has been received by secretary Talbott from F. Lange, of the Imperial German Legation at Washington:

"I am aware that a National Exposition of Railway Appliances will be held in Chicago and opened on the 24th of May. If there has not yet been given notice to the Prussian government, which controls a very great system of lines, I beg you to give me all the information about it, in order that I may communicate the same immediately to my government."

Appliances for space come from every state and territory and from most foreign countries in which railways are operated, and the complete success of the exposition is assured beyond question.

Land Grant Railroads.

THE Secretary of the Interior transmitted to the House of Representatives at Washington on the 15th inst., a letter showing what land grant railroads have been completed within the period fixed by the acts granting them charters. Since March 27, 1882, the date of the last report, the roads named have completed additional miles as follows: Atlantic, Gulf and West India Transit Company Railroad, in Florida, 26 miles; Pensacola and Atlantic Railroad, 40; North Wisconsin Railroad, 60 miles; North Pacific Railroad, 404 miles; Atlantic and Pacific Railroad (in Indian Territory), 250 miles.

On the following roads no work has been done since March 27, 1882: Gulf and Ship Island, Tuscaloosa and Mobile, Mobile and New Orleans, Coosa and Tennessee, Coosa and Chattanooga, Elyton and Beard's Bluff, Memphis and Charleston, the railroad from New Orleans to the State line in the direction of Jackson, Miss., Iron Mountain, in Arkansas.

The communication states that no lands have been patented for any uncompleted road since March 27, 1882, except in the case of the Wisconsin Central.

AN electric railway, for the purpose of carrying passengers around the inside of the gallery of the building, will be one of the features of the Exposition of Railway Appliances to be held in Chicago in May next. The length of this railway will be about one-third of a mile.

Lots of Fun in Him.

ONE of the members of the Methodist Conference held in Detroit was out for a walk at an early hour one morning, and encountered a strapping big fellow who was drawing a wagon to a blacksmith shop.

"Catch hold here and help me down to the shop with this wagon, and I'll buy the whiskey," called the big fellow.

"I never drink," solemnly replied the good man.

"Well, you can take a cigar."

"I never smoke."

The man dropped the wagon tongue, looked hard at the member, and asked:—

"Don't you chew?"

"No, sir," was the decided reply.

"You must get mighty lonesome," mused the teamster.

"I guess I'm all right; I feel first rate."

"I'll bet you even that I can lay you on your back," said the teamster.

"I never bet," said the clergyman.

"Come, now, let's warm up a little."

"I'm in a hurry."

"Well, let's take each other down for fun, then. You are as big as I am, and I'll give you the under hold."

"I never have fun," solemnly replied the member.

"Well, I'm going to tackle you anyhow. Here we go."

The teamster slid up and endeavored to get a back hold, but he had only just commenced his fun when he was lifted clear off the grass and slammed against a tree box with such force that he gasped a half dozen times before he could catch his breath.

"Now, you keep away from me," exclaimed the minister, picking up his cane.

"Bust me if I don't," replied the teamster as he edged off. "What's the use in lying and saying you didn't have any fun in you, when you are chuck full of it? You wanted to break my back, didn't you?"

THE next regular meeting of the Western Association of General Passenger and Ticket Agents, of which W. H. Dixon, 150 Monroe street, Chicago, Ills., is president, will be held at the Southern Hotel, St. Louis, Mo., on Wednesday, February 14, 1883, at 11 o'clock a. m. As the annual election of officers will take place at this meeting it is hoped all the members will endeavor to be present.

A FIRST-CLASS narrow gauge locomotive weighs 44,000 pounds or equivalent to the weight of 16,192,000 of Esterbrook's Mammoth Falcon Pens.

MAN is an animal that cannot long be left in safety without occupation; the growth of his fallow nature is apt to run into weeds.—*Hillard.*

THE temperate are the most truly luxurious. By abstaining from most things, it is surprising how many things we enjoy.—*Simms.*

ADVERTISE in the Railroad Journal.

THE exports of mineral oils from the United States were the fourth on the list of values during the fiscal year 1882. The percentages of the first four commodities were as follows: 1, Cotton, raw and manufactures of, per cent, 29.05. 2, Breadstuffs, per cent, 24.91. 3, Provisions, per cent, 16.46. 4, Mineral oils, per cent, 6.99. Then follow: Wood, tobacco, iron and steel, live stock, leather, oil cake, furs, drugs and chemicals and dyestuffs, seeds (clover, timothy and cotton), tallow, spirits of turpentine, coal, naval stores, etc. The annual report of the exports of petroleum were not complete in the Government statistics until 1864. In that fiscal year the value amounted to $10,782,689. In 1870 the value was $32,668,960, and during 1882 it was $51,232,706, the largest ever known.

THE master mechanic of the Canada Southern Railway pronounces the automatic car coupler invented by Henry McIntyre, of Wallaceburg, the best thing of the kind he has ever seen. The drawhead is so arranged that the pin can not only be withdrawn by the brakeman by means of a chain, which reaches to the top of the cars, but the act of uncoupling sets the pin in position for the next coupling. The necessity of going between the cars to make a coupling is also avoided, the pin being so arranged that when two cars come together it drops down, thus acting as a self-coupler. The link has a play of from five to six inches to provide for the unequal height of cars. The invention is pronounced by competent judges to be the only coupler yet introduced which will prove effective in saving the lives of brakemen.

THE population of Portland, Oregon, is less than 35,000, and yet it spent last year $3,000,000 in new buildings; turned out of its factories, mainly in wood and iron products, a total value of $7,434,800; conducted a wholesale trade amounting to $40,000,000; imported $23,128,981 worth of commodities, and exported $15,366,388, of which all but a few thousand dollars represent flour and salmon; advanced its real estate transactions to nearly $7,000,000, and spent nearly $400,000 on its streets.

THE law providing for compromising, computing and settling a portion of the State debt of North Carolina expired before several millions of the bonds had been exchanged. In accordance with the suggestion of the State Treasurer, the Legislature has extended the operations of the act for two years, to allow ample time for full exchange and settlement.

According to the report of the Treasurer of Ontario the expenditures of that Province for the year 1882 amounted to $2,919,133.81, and the revenue to $2,880,066.31, being a deficit of $39,067.50. The estimates for 1883 amount to $2,559,283.63, being $169,557.31 in advance of 1882.

THE first through train of passenger coaches reached San Antonio from El Paso on the Southern Pacific Railroad on the 20th ult.

AN order has been made for the voluntary winding up of the Honduras Interoceanic Railway Company.

The Best Salesman.

NEWSPAPAR advertising offers such facilities for addressing all classes from which customers would be likely to be attracted, that it is now recognized by shrewd business men as the best of all possible salesmen—one who never sleeps and is never weary—who goes after business early and late—who accosts the merchant in his shop, the lawyer in his office, the student in his study, the cultivated woman at the family fireside—who can be in a thousand places at once, and speak to a million people each day, saying to each one the beat thing in the best manner.

It is always at work, early and late, and does only and exactly what it is told to do. It can be monopolized by no one, but, while doing your neighbor's work, is ready to do as good or better service for you.

THE government have 160 men at work on the graving dock at Esquimault, B. C. The cost of the dock will exceed a million dollars.

STRIKING HEAD LINES.

Are used to call attention to the fact that this is an advertisement of the **CHICAGO, MILWAUKEE & ST. PAUL RAILWAY.**

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Railway Speed.

A TABULAR statement of the greatest speed of railway trains in Europe and the United States, published in a German journal, *Die Verkehrszeitung*, shows that people generally exaggerate the rapidity with which long distances are traversed, even in the cases of trains specially famous for their speed.

One of these trains is that which runs on the Great Northern road, from London to Edinburgh, via York. The distance is 397 miles, and the time is nine hours. The average speed, therefore, is 44.1 miles an hour. The distance from Euston is 401 miles, and London and Northwestern trains make the run in ten hours, or 40.1 miles an hour. By the Midland Railway the distance is 404 miles, and the time is ten hours and five minutes, or very nearly the same speed.

It must be remembered, however, that these are great distances, and that time is necessarily lost in stops, one of which is a very considerable one. To get high average speed there must be long intervals between stopping places, for time is lost not only at the stations, but also in getting into and out of them. The actual speed when the train is running at its fastest is therefore much greater than the average speed, and this explains why passengers who time the train while it is going over certain distances without stopping are surprised when they are given the average rate of speed.

The fastest train in the world is the Flying Dutchman, broad gauge, which makes the run to Swindon at fifty-three and one-half miles an hour. One train runs to Peterborough at fifty-one miles an hour, which is about the speed repeatedly made in the run from London to Grantham. The Great Northern trains run from London to York, 188 miles, at the rate of forty-eight miles, whereas, as we have seen, for the whole of the distance to Edinburgh, 397 miles, the average speed is only 44.1 miles. The quickest run in the United States is that between New York and Philadelphia, forty-seven and two-third miles an hour. Some of the fastest trains in the world are those run between Leeds and London. The distance by the Great Northern is 186½ miles, and a special train makes the run in four hours and five minutes, or at an average speed of 45.4 miles an hour. The distance by the Midland is 196 miles, and is traversed in four hours and thirty minutes, an average speed of 43 5 miles an hour.

About the most perfect piece of mechanism we have on a large scale is our modern locomotive, and it does not seem probable that its development will go much further. It is "hard to beat," as the London *Engineer* says; but its proportions may be so increased thatan average speed of sixty miles an hour for long runs may be obtained with a comparatively light train. That high limit may be reached in the future, and it is no doubt not difficult of attainment, especially with our American locomotives, less cumbersome than those of England. But there seems to be little disposition among railway managers at present to endeavor to reach that end. The tendency is not toward trains of extraordinary rapidity, though the average speed of all trains may be increasing. The reason for that is that the wear and tear of the road are too great for economical management with locomotives so heavy and velocity so enormous. But an average speed of sixty miles an hour, even for long runs, is entirely feasible.

Stopping Steam Engines by Electricity.

AMONG the various uses to which electricity may be put there is one of a very simple and practical nature, which promises to effect a great saving of property and life if brought into general operation. The inventor of this new contrivance is Mr. Tate. But, to speak correctly, it is rather an application of existing electric power than a new discovery. Simply, the contrivance is an arrangement for the immediate stoppage of a steam engine, by merely pressing a button similar to those by which electric bells of fire alarms are sounded. This button may be placed at any distance from the engine upon which it acts; and Mr. Tate proposes that a number of such buttons should be dispersed throughout the factory or elsewhere where the apparatus is in use. In factories accidents occur almost daily through the impossibility of stopping machinery on the instant. Such accidents will, it seems, be readily avoided by this method of instantaneously stopping the engine from any part of the building in which it works. The principle of the contrivance depends on the action of an electro-magnet upon the stop valve of the engine.—*St. James Gazette.*

Distance Indicator for Locomotives.

AN instrument has been lately invented by a Sicilian, Signor Vito, which is meant to show the engine driver at any moment, with close approximation, the point reached on a journey, and also sets the whistle in action at a given point, where special attention may be necessary. The first part, for indicating the length of line run, is an ordinary counter, with three discs, each divided into 100 parts, and traversed by a needle set in motion by the engine wheels. The first disc indicates 10 metres for each division, the second kilometres, the third 100 kilometres. For the second part, Signor Vito uses a cord of a certain length, which the reaction of a spring tends to wind on a drum. This cord passes between friction-pulleys, governed by the counter, so that its rate of winding on the drum depends on the progress of the locomotive. A spiral spring wound up and held by a peg is connected to the valve of the whistle.—*Herapath's Railway Journal.*

THE returns of the British Board of Trade for December, 1882, show that there was a decrease in exports as compared with December, 1881, of $10,052,505, or ten per cent. The imports for the same month increased $10,669,305, or over six per cent, as compared with December, 1881. The imports for the whole year 1882 show something less than four per cent gain over the previous year, while the exports for the same period show a gain of three per cent. A striking result of the collapse in prices on this side of the ocean is seen in the fact that while we shipped to Great Britain more wheat in December, 1882, than during December, 1881, they paid us nearly $1,000,000 less money for it.

Growth of South Carolina.

IN 1870 South Carolina produced 224,500 bales of cotton and 9,735,465 bushels of grain. There were 88 acres of improved land to the square mile, and 6 bales of cotton and 287 bushels of grain were made to the square mile. In 1880 there was produced 522,548 bales of cotton and 17,010,593 bushels of grain. There were 111 acres of tilled land to the square mile, and 15 bales of cotton and 501 bushels of grain were made to the square mile. In 1870, 147 pounds of lint cotton and 13 bushels of grain per capita of population were produced. In 1880, 245 pounds of cotton and 17 bushels of grain. The value of the difference between the yield of corn, wheat and oats in 1881 and 1882 is more than the value of the whole amount of farm supplies purchased outside of the State. In 1870 there were 745 looms and 34,683 spindles in the cotton mills in the State, and the capital invested was $1,336,000. The mills paid in wages that year $257,680, and employed 1,123 hands. They consumed 4,750,823 pounds of cotton, and the value of all the products of the mills was $1,529,937. In 1880 there were 1,776 looms, 92,788 spindles; capital invested, $2,768,500; wages paid, $340,166; hands employed, 2,195; pounds of cotton consumed, 14,869,500, and the value of all the products was $3,750,770.

Is Paper to be the Rail of the Future?

IT is well known that one of the best materials for car wheels is paper. It is now stated that paper can be utilized for the manufacture of rails, in place of steel, which has almost displaced iron. It is said in favor of the new material that the cost per mile will be less by one-third than that of steel, and it will last much longer, being almost indestructible. There is no expansion or contraction from heat and cold, consequently no loose or open joints; and, being so much lighter than steel or iron, the rails can be made longer and connections perfectly solid, making the road as smooth as one continuous rail. The adhesion of the drivers of the engine to this material will be greater than that of steel, consequently the same weight engine will haul a larger load. There will be a great saving of fuel, and the smoothness of the rail will lessen the wear and tear of rolling stock. The rails are made wholly and entirely of paper, and so solid that the sharpest spike cannot be driven into them. The action of the atmosphere has no effect on it, will neither rust nor rot, and, with paper wheels and rails of the same material, our palatial trains will glide over the prairies at the rate of 60 miles an hour with as little jolt and jar as on an ocean steamer.—*Boston Journal.*

DR. SIEMENS, the learned president of the British Association, said in a recent lecture: "The burning of raw coal for domestic purposes is very wasteful. Coal should be reduced to gas and coke; gas can be burned more economically than coal, while coke and other so-called waste products resulting from the manufacture of gas are of more money value than the coal originally used." His anxiety is to make London more habitable.

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IMPORTANT ANNOUNCEMENT TO INVENTORS.

THAT department of the AMERICAN RAILROAD JOURNAL which contains descriptions of new inventions properly coming within its range of subjects, is regarded with great notice and favor, particularly by those directly interested in learning what the latest applications of mechanical ingenuity in railroading are, and by those who have produced inventions which they desire to make as widely known as possible.

The large and widespread circulation of this paper, its prestige as the oldest railroad journal in the world, and the weight attached to its contents by the general consent of leading railroad men in all countries, give such value to its carefully prepared descriptions of new machinery and appliances as cannot be found outside of its columns.

The interest manifested by inventors in supplying us with information of their doings, and the eagerness with which this is received, encourage us to give an increased attention to that department of this paper treating of new inventions.

We therefore repeat our invitation to all persons who have produced what they regard as improvements coming within the range of railroad operations, to communicate with us promptly regarding the same.

All matter sent us will be thoroughly examined and considered, and no inventions in our opinion likely to be practicable and useful will be passed over without receiving due attention from us.

List of Patents for Inventions Relating to Railways, Manufacturing, Mining, Street Cars, Machinery, Etc.

BEARING DATE OF JANUARY 23, 1883.

270,890 Back-Pressure Valve. Charles F. Copeland, Boston, Mass.

270,897. Fan-Blower: Charles Hammelmann, Buffalo, N. Y.

270,908. Car-Axle Box; Henry Millholland, Philadelphia, Pa., assignor of nine-twentieths to Robert W. Lesley and Charles V. Grant, both of same place.

270,915. Steam-Boiler: Nathan P. Stevens, Concord, N.H.

270,927. Regulating the Supply of Oil to Vapor-Engines: Geo. B. Brayton, Boston, Mass., assignor to the Brayton Petroleum Engine Company, same place.

270,937. Steam-Injector: John Desmond, Jackson, Mich., assignor of two-thirds to Walter A. Bennett and Theodore G. Bennett, same place.

270,938. Street-Car Motor: Orlando R. Erwin, Chicago, Ill.

270,962. Car-Brake: Aldis H. Marden, Cambridge, Mass.

270,982. Compressed-Air Motor: Charles W. Potter, New York.

270,985. Car-Truck: Richard L. Robertson and Oliver S. Burdett, New Orleans, La.

270,986. Balanced Slide-Valve: Ferdinand Bochow, Brooklyn, N. Y.

270,999. Road-Engine: Edward J. Taylor, Alaska, W. Va., and Charles L. Pagenhart, Boyceville, Va.; said Pagenhart assignor to said Taylor.

271,003. Piston-Packing: Stephen D. Tucker, New York.

271,005. Steam-Engine Lubricating Attachment: H. Herman Westinghouse, Pittsburgh, Pa.

271,014. Wood-Working Machine: Jos. G. Austin, Camden, N. J.

271,018. Saw-Table Gage: Daniel K. Barnhart, Gaines, Pa.

271,026. Nut-Lock: James N. Bradford, Bay City, Mich.

271,027. Smoke-Consuming Furnace for Locomotives: Edwin L. Brady, New York,

271,035. Sanding Device for Locomotive: Jno. B. Collin, Altoona, Pa.

271,040. Hydropneumatic Engine: Levi G. Cook, Mapleville, R. I.

271,042. Electric Locomotive: Charles G. Curtis and Francis B. Crocker, New York.

271,045. Car-Coupling: James M. Duleney and Thomas Owens, Topeka, Kan.

271,066. Car-Starter: William H. Harrison, Louisville, Ky., assignor to himself and Hardin H. Littell, same place.

271,067. Stop-Valve: Michael Hastings, Brooklyn, N. Y.

271,073. Valve: Charles Jenkins, Boston, Mass.

271,076. Piston-Packing: Delbert W. Jewell, Alexander, N. Y.

271,077. Oil or Water Injector: Omar H. Jewell, Chicago, Ill.

271,085. Car-Coupling: John P. Lancaster, Goshen, Ind.

271,096. Condenser for Steam-Pumps: William A. Miles, Copake Iron Works, N. Y.

271,102. Railway-Crossing Barrier or Gate: William B. Morris, San Francisco, Cal.

271,106. Car-Coupling: John J. O'Connor and Ralph M. White, Wellsville, N. Y., assignors of one-third to Charles L. Gish, same place.

271,111. Car-Brake: J. Curtis Patterson, Philadelphia, Pa.

271,129. Traction-Engine: Cyrenius Rowe, Wales, N. Y., assignor of one-half to Edwin T. Allen, Philadelphia, Pa.

271,134. Portable Grain Elevator and Weigher: Mortimer Scanlan and John T. Hough, Chicago, Ill.

271,139. Blower: Wm. S. Sharpneck, Blair, Neb., assignor of one-half to Green Majors, same place.

271,151. Spring Car-Motor: George Stites, Robert Steel and Samuel Austin, Philadelphia, Pa., assignors to the United States Spring Car-Motor Construction Company, Camden, N. J.

271,176. Gong for Street-Cars: Charles H. White, New York.

271,179. Car-Coupling: Lafayette Wilkerson, Scipio, Ind.

271,189. Locomotive-Brake: Ebenezer Beals, Norwich, N. Y., assignor to Jane M. Guernsey, same place.

Persian Railways.

Although a good deal has been heard at different times since the Shah's first visit to Europe about projected railways in Persia, nothing has been done toward their construction, and the statement recently made that work was about to be begun on one of them would scarcely justify notice were it not that it tallies with the official information received from our Minister at Teheran.

The line selected by the Persian Government for its first operations in laying down the iron road within the dominions of the King of Kings is not only the one which is most needed; it is that also which promises to be the most remunerative. The public announcement was to the effect that a railway is to be constructed between the capital. Teheran, and the Caspian port of Resht, and that the Persian Consul at Baku has been engaged in procuring navvies at that place for the work. The explanation of the latter portion of this statement is that many of that class of laborers happen to be about to be disengaged at Baku, wither the railway from Tiflis is now on the point of completion; and the Persian Government is naturally anxious to secure their services before they have returned to their homes.

Resht, which is one of the most prosperous places in Persia, with a population of nearly 30,000 persons, is not a harbor itself. It lies on the southern side of a small lake, or rather bay, for it possesses an outlet 500 yards wide into the Caspian, and the Caspian steamers call at Enzelli to land paasengers and merchandise. Enzelli is situated on a narrow spit of land, and is populated chiefly by Russian merchants and their workpeople. Communication is maintained by means of boats between Enzelli and Resht, and the Shah's steam-yacht is available for royalty and high dignitaries. The country round Resht is of striking fertility, and, indeed, the whole of the Province of Ghilan should, under a provident administration, rank among the most productive regions in the world.

From Resht to Teheran the distance is about 225 miles, and the main road, after following for some distance the course of the Sefid Rud, turns in a due southeasterly direction through the ancient Persian capital of Kazvin to Teheran. We have yet to learn how the French engineers, to whom the task is intrusted, propose, on the resources of the Teheran Government, to overcome the difficulties of the Kharzan Pass, by which the Elburz range is crossed. This pass is 7,000 feet above the sea; but it presents no single difficulty along the route from the shores of the Caspian to the Persian capital.

There can be no doubt that the Shah's Government is at last taking a step in the right direction, but it should remember that the policy of improving the means of communication in the Provinces near the Russian frontier is one from which it may incur peril as well as derive benefit.

The construction of a railway from the Caspian to Teheran, following as it does the connection of the Black and Caspian seas by the same means, will hardly fail to produce a complete diversion of commerce in this region, from which Trebizond and Armenia generally will be the first to suffer. A false commercial policy on the part of either Russia or Persia will, however, mar this prospect, and a prohibitive tariff may deprive these lines of the traffic which can alone render them self-supporting.—*London Times.*

Sleeping-Cars for the "Shore Line" Express.

THE Barney & Smith Manufacturing Company, of Dayton, Ohio, is building several sleeping and drawing-room cars for the Shore Line between New York and Boston. Two of the sleeping-cars were recently on exhibition in the Boston and Providence Railroad station at Boston. The exterior is painted a rich dark brown relieved by gilding, and the inscription "Wagner Shore Line Sleeping Co.," and the car name "Boston" and "New London." One of the cars is finished in burl ash, and the other in black walnut. One has sixteen sections, the other twelve sections and a stateroom containing one single and two double berths. All the berths are provided with spiral springs and hair mattresses, and the upper berths have a patent safety lock, which prevents it from locking in case of its shutting up when any one is occupying it, thus guarding against the danger of a person being confined beyond escape in case of a car going off the rails and turning over. The heating of the cars by the Baker & Smith apparatus, and the excellent ventilation, make them very comfortable in any weather. They are mounted on six-wheel trucks, with iron frames, yoked on the outside, thus preventing lateral motion in going around curves, and forty-two-inch Allen paper wheels are used, which ride remarkably easy and are very durable. The drawing-room cars are similar in style, and equally comfortable and well built. Their chairs are upholstered in green embossed plush, and the windows are very large.